ATTACHMENT 7

ARROW LNG PLANT

Commitments Update

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ATTACHMENT 7: COMMITMENTS UPDATE

Table A7.1 Arrow LNG Plant: Commitments

Number	Commitment	Change
Climate and Climate Change Adaptation		
C10.01	Design the plant in accordance with the most current Australian standards addressing climatic factors including wind, bushfires, and sea level rise for maritime structures.	No change
C10.02	Consider climate change induced increases in ambient air temperature when specifying the design operating conditions for plant and equipment.	No change
C10.03	Consider changes to natural tidal inundation and storm surge levels due to climate change when siting permanent facilities.	No change
C10.04	Seek ways to lower water consumption through water-efficient technologies and practices or by installation of water efficient devices.	No change
C10.05	Deploy preventative and responsive measures for bushfire management.	No change
C10.06	Incorporate climate change induced health risks into workplace health, safety and environmental management plans.	No change
C10.07	Engage in government or industry climate change programs.	No change
C10.08	Estimate and include climate change costs in business cost projection and, at the same time, take advantage of emerging business opportunities that climate change may generate.	No change
Geology, Landform and Soils		
C11.01	Prior to construction, carry out detailed geotechnical ground investigations to assess site specific ground conditions and provide recommendations on slope placement, geometry and drainage.	No change
C11.02	Prior to construction, carry out geo-environmental investigations to identify the depths at which saline soils occur in terrain unit 1, and coastal areas of terrain units 2 and 3a. The cut and fill program will be designed to segregate saline soils from non-saline soils, where these soils are intended for stockpiling for future rehabilitation of the site.	No change
C11.03	Prior to construction, prepare topsoil stripping guidelines, which include a schedule and location of areas to be stripped. Quantify the soil type, depth and resources and establish a handling method. Nominate appropriate, site specific stripping depths and characterise for suitability for use in rehabilitation works.	No change
C11.04	Design the tunnel spoil placement area to minimise adverse impacts associated with ground compaction, erosion and surface water runoff such that a self sustaining landform is achieved. Incorporate appropriate drainage measures into the design.	No change
C11.05	Limit clearing of vegetated areas to the project area. Areas will be stabilised and progressively rehabilitated to reduce prolonged exposure of soils.	No change
C11.06	Consider use of erosion matting (jute mesh) or sediment socks (sand-filled, UV-resistant fabric tubes) in areas of ground disturbance outside of purpose built drainage channels.	No change
C11.07	Manage surface runoff to reduce concentration of surface flow, particularly in erodible soils. Provide drainage channels with suitable design features to minimise erosion where surface runoff is disrupted by roads, tracks, fencing and buildings. Place structures within drainage channels to reduce flow velocity where appropriate. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Geology, Landform and Soils (cont'd)		
C11.08	Do not create slopes that are steeper than is appropriate for the material encountered. Consider the orientation of cut batters compared with the orientation of bedrock defects. Where batters exceed 10 m in height and 3 m wide, construct benches at 10 m intervals, unless local conditions dictate otherwise.	No change
C11.09	Avoid works near stream banks during periods of heavy rainfall where practical. If works cannot be timed to avoid heavy rainfall, adopt additional measures, such as the use of berms and silt fences. Common with Chapter 13, Surface Water Hydrology and Water Quality and Chapter 18, Freshwater Ecology.	No change
C11.10	Exclude vehicles from operating in areas not in use for construction or operation and, in general, restrict vehicles to designated access tracks.	No change
C11.11	Implement sediment and erosion control measures upslope of watercourses, wetlands and coastal areas or in areas with sodic soils to minimise increases in natural sediment discharge. Measures may include sediment traps, silt fencing, riprap, contour banks, detention dams, sediment ponds and vegetation and diversion berms. Common with Chapter 13 Surface Water Hydrology and Water Quality.	No change
C11.12	Use control measures such as drains, swales, silt fencing and sediment traps around the lower slopes of erodible stockpiles. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change
C11.13	Where sodic soils are encountered, implement control measures (such as soil ameliorants) to soils and soil stockpiles to reduce dispersion, waterlogging and crusting.	No change
C11.14	For pipeline trenching activities reinstate soil profiles to predisturbance orientation, where practical, using excavated topsoil.	No change
C11.15	Design saline and sodic subsoil stockpiles to reduce ponding and salt migration to non-saline soils.	No change
C11.16	Prior to construction commencing, develop a site drainage plan to define how the civil construction will address site drainage, stormwater management, erosion control and stockpile placement. Risks relating to flood events will also be addressed with appropriate mitigation measures to minimise erosion and surface water quality issues. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change
C11.17	Store topsoil, subsoil and sediment trap soil in separate stockpiles to avoid mixing soil types and introducing salinity to non-saline soils.	No change
C11.18	Design topsoil stockpiles to allow for nutrient cycling.	No change
C11.19A	Where insufficient topsoil is available at the site, use comparable imported topsoil as a preference, or other proprietary systems (e.g., spray mulch) for rehabilitation. Marine clays, skeletal soils, rock or gravelly soils will not be used in the rehabilitation of topsoil layers.	Minor change to allow other methods of reinstatement beyond topsoil importation
C11.20	Control speed limits on site via posted speed limit signs and confine vehicles generally to marked trafficable areas. Common with Chapter 21, Air Quality.	No change
C11.21	Keep trafficked surfaces damp during construction with sprayed water when conditions are dry to suppress dust generation. Use water of a similar quality to that which is available in the locality and do not spray as concentrated flow. Common with Chapter 21, Air Quality.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Geology, Landform and Soils (cont'd)		
C11.22	Design and construct a barrier and sediment control pond to trap sediment leaving the LNG plant site before it enters the Port Curtis marine environment or other surface waters. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change
C11.23	Protect stream channels in soils prone to gully erosion with rock armouring or other appropriate structures and material to reduce erosion potential. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change
C11.24	Consider the thickness of colluvium, orientation and gradient of cut batters and orientation of bedrock defects when designing cut and fill locations to reduce the potential for slope destabilisation.	No change
C11.25	Batter or shore trench walls in soft, waterlogged soils (particularly in terrain unit 1) to increase stability.	No change
C11.26	Do not use saline, acidic or sodic soils for backfill padding of trenched pipelines where alternatives are available.	No change
C11.27	Cap excavated sodic or saline subsoils with non-sodic or non-saline topsoil material, during reinstatement.	No change
C11.28	Rehabilitate batters, embankments and borrow pits and revegetate as soon as practical after construction. Reinstate areas no longer required for construction or support services and revegetate as per planting and seeding rehabilitation plans to be developed for the project.	No change
C11.29	Re-profile and reinstate topsoil, vegetation and re-establish a stable surface, where practical, during decommissioning and rehabilitation of the LNG plant site. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change
Land Contamination and Acid Sulfate Soils		
C12.01	Prior to construction, the extent of contamination will be further defined where required, and mitigation measures will be refined as appropriate.	No change
C12.02	Former cattle dip: Undertake additional assessment of the area of potential contamination and develop management or remediation via a DERM-accepted method. Validate the impacted area as per the draft guidelines for the assessment and management of contaminated land in Queensland 1998 (DoE, 1998) and national environment protection (assessment of site contamination) measure (NEPC, 1999).	No change
C12.03	Former cattle dip: Remove livestock dip and spray race structure.	No change
C12.04	Former cattle dip: Manage or remediate impacted soil and groundwater in accordance with current Queensland and national guidelines.	No change
C12.05	Ash in settling ponds: Undertake Stage 2 assessment of ash to determine contamination status.	No change
C12.06	Ash in settling ponds: Where practical, avoid disturbance of buried ash during construction.	No change
C12.07	Ash in settling ponds: Establish effective management methods for disturbed ash during construction activities including erosion and sediment controls and dust suppression. Use of appropriate personal protective equipment will be required.	No change
C12.08	Ash in settling ponds: Place suitable capping material and develop a site management plan if required.	No change
C12.09	Waste battery stockpiles: Remove batteries from site for recycling.	No change
C12.10	Waste battery stockpiles: Undertake shallow surface soil validation sampling.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Land Contamination and Acid Sulfate Soils (cont'd)		
C12.11	Chemicals and fuel use or storage: Construct facilities in accordance with relevant Australian standards.	No change
C12.12	Chemicals and fuel use or storage: Appropriately train staff in the use of hazardous materials.	No change
C12.13	Future chemicals and fuel use or storage: Immediately clean up any spills and conduct investigations into any relevant releases.	No change
C12.14	Fires and emergency releases of hazardous materials: Provide emergency response training to staff handling dangerous goods.	No change
C12.15	Fires and emergency releases of hazardous materials: Construct facilities and spill containment in accordance with current Australian standards.	No change
C12.16	Fires and emergency releases of hazardous materials: Regularly inspect infrastructure using or storing hazardous materials, or test for integrity.	No change
C12.17	Develop an ASS management plan prior to construction work. In the plan, specify how onsite ASS disturbances should be managed in accordance with SPP2/02 and the methods set out in Queensland acid sulfate soil technical manual soil management guidelines (Dear et al., 2002). Common with Chapter 14, Groundwater.	No change
C12.18	Remediate areas of contamination that have resulted from the project to a level that protects human health and the environment.	No change
Surface Water Hydrology and Water Quality		
C13.01	Locate sensitive project infrastructure to avoid the 1:100 yr ARI where practical.	No change
C13.02	Design stream diversions and adjacent flood corridors to manage a minimum of a 1:100 year ARI event.	No change
C13.03	Design the stream diversion at the LNG plant site; to prevent erosion or deposition at greater than natural rates; as a corridor, which may contain a formalised channel and constructed flood plain zone; and to allow for the transport of sediment.	No change
C13.04	Design TWAF 8 to minimise disturbance to the of concern RE 11.3.4 ('*Eucalyptus tereticornis* and/or Eucalyptus spp. tall woodland on alluvial plains') to maintain connectivity of habitat along the Targinie Creek riparian zone. Common with Chapter 17, Terrestrial Ecology and Chapter 18, Freshwater Ecology.	No change
C13.05	Where practical, align the perimeter fence at TWAF 8 to adopt the alignment of the existing fence where it crosses Targinie Creek. Common with Chapter 17, Terrestrial Ecology and Chapter 18, Freshwater Ecology.	No change
C13.06	Design any intra-site access road crossing of Targinie Creek at TWAF 8 to include box culverts (or similar) to enable fauna movement under the road and along the wildlife corridor. Common with Chapter 17, Terrestrial Ecology and Chapter 18, Freshwater Ecology.	No change
C13.07	Keep the footprint of the mainland tunnel entry shaft and tunnel spoil disposal area to a minimum of 500 m clear of Boat Creek. Common with Chapter 18, Freshwater Ecology.	No change
C13.08	Treat stormwater generated from TWAF 7, TWAF 8, launch site 1, the tunnel shaft entry site and tunnel spoil disposal area in temporary sediment basins located at each site.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Surface Water Hydrology and Water Quality (cont'd)		
C13.09	Divert sediment-laden water from disturbed areas at the LNG plant site to temporary sedimentation ponds.	No change
C13.10	Manage all surface water generated from the LNG plant site by a stormwater treatment system to ensure discharged water complies with regulatory requirements. Common with Chapter 31, Waste Management.	No change
C11.12	Use control measures such as drains, swales, silt fencing and sediment traps around the lower slopes of erodible stockpiles. Common with Chapter 11, Geology, Landform and Soils.	No change
C11.11	Implement sediment and erosion control measures upslope of watercourses, wetlands and coastal areas or in areas with sodic soils to minimise increases in natural sediment discharge. Measures may include sediment traps, silt fencing, riprap, contour banks, detention dams, sediment ponds and vegetation and diversion berms. Common with Chapter 11, Geology, Landform and Soils.	No change
C11.16	Prior to construction commencing, develop a site drainage plan to define how the civil construction will address site drainage, stormwater management, erosion control and stockpile placement. Risks relating to flood events will also be addressed with appropriate mitigation measures to minimise erosion and surface water quality issues. Common with Chapter 11, Geology, Landform and Soils.	No change
C11.23	Protect stream channels in soils prone to gully erosion with rock armouring or other appropriate structures and material to reduce the erosion potential. Common with Chapter 11, Geology, Landform and Soils.	No change
C11.07	Manage surface runoff to reduce concentration of surface flow, particularly in erodible soils. Provide drainage channels with suitable design features to minimise erosion where surface runoff is disrupted by roads, tracks, fencing and buildings. Place structures within drainage channels to reduce flow velocity where appropriate. Common with Chapter 11, Geology, Landform and Soils.	No change
C11.22	Design and construct a barrier and sediment control pond to trap sediment leaving the LNG plant site before it enters the Port Curtis marine environment or other surface waters. Common with Chapter 11, Geology, Landform and Soils.	No change
C11.09	Avoid works near stream banks during periods of heavy rainfall where practical. If works cannot be timed to avoid heavy rainfall, adopt additional measures, such as the use of berms and silt fences. Common with Chapter 11, Geology, Landform and Soils and Chapter 18, Freshwater Ecology.	No change
C13.11	Provide secondary containment for any fuel, oil or chemicals in above ground storage facilities in accordance with applicable Australian standards.	No change
C13.12	Develop appropriate spill prevention and response plans to cover project activities and the types and quantities of fuel, oil and chemicals held at each site. Common with Chapter 14, Groundwater, Chapter 16, Marine Water Quality and Sediment and Chapter 31, Waste Management.	No change
C13.13	Train all relevant personnel in spill response and recovery procedures. Common with Chapter 31, Waste Management.	No change
C13.14	Maintain live capacities of storage bunds to maximise capacity in the event of a storm or spill.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Surface Water Hydrology and Water Quality (cont'd)		
C13.15	Do not abstract freshwater from watercourses, or dispose of effluent directly into freshwater watercourses, except clean stormwater. Common with Chapter 18, Freshwater Ecology.	No change
C13.16	Where waterway crossings are necessary, cross ephemeral streams in preference to permanent streams, where practical. Where pipeline waterway crossings are necessary, approach stream crossings perpendicular to the stream where possible, to reduce bank erosion risk and minimise the footprint within the bed and riparian zone. Common with Chapter 18, Freshwater Ecology.	No change
C13.17	Where practical, ensure that grasses and other ground cover remain in place to assist with trapping mobilised sediments.	No change
C13.18	Avoid the use of herbicides within riparian zones or directly over watercourses. Where this is not possible, use products specifically approved for this purpose.	No change
C13.19	Develop site-specific vegetation management plans to reinstate native plant species to areas to be rehabilitated, including riparian margins. Exotic sterile grasses may be used in areas where temporary cover is required to aid in soil stabilisation.	No change
C13.20	Undertake earthworks and rehabilitation activities to facilitate drainage and reduce the potential for standing water to accumulate. Common with Chapter 18, Freshwater Ecology.	No change
C13.21	Avoid discharging tail water from the tunnel spoil disposal area into Boat Creek. Common with Chapter 18, Freshwater Ecology.	No change
C13.22	Where works are required in watercourses, they will be confined to reduced width construction right of ways that preserve, to the extent possible, the integrity of the riparian vegetation and any associated wildlife corridors. Common with Chapter 18, Freshwater Ecology.	No change
C13.23	Routinely inspect and maintain the stormwater treatment system.	No change
C13.24	Treat all surface water and stormwater generated within the LNG plant site in a stormwater system to ensure discharged water meets regulatory requirements.	No change
C13.25	Collect contaminated stormwater for treatment before discharge.	No change
C13.26	Only treat surface water generated within the LNG plant site in the stormwater treatment system. Divert runoff generated outside the LNG plant site away from the LNG plant site stormwater system via the proposed stream diversion.	No change
C13.27	Place structures within drainage channels to reduce flow velocity where appropriate.	No change
C13.28	Remove litter and other debris from within the treatment system, especially around the inlet and outlet structures.	No change
C13.29	Keep areas within and around the stormwater treatment system free of weeds, and other undesired overgrowth.	No change
C13.30	Consider post-decommissioning channel form for the stream diversion design and provide for a self-sustaining waterway, without the need for maintenance beyond the life of the project.	No change
C11.29	Re-profile and reinstate topsoil, vegetation and re-establish a stable surface, where practical, during decommissioning and rehabilitation of the LNG plant site. Common with Chapter 11, Geology, Landform and Soils.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Groundwater		
C14.01	Design the facility drainage system such that accidental releases of hazardous substances are collected to reduce the chance of contamination seeping into the groundwater system.	No change
C14.02	Prepare a materials handling and waste management plan to manage any potential contaminants, soils or materials that might result in impacts to shallow groundwater through either short term or long term leaching.	No change
C14.03	Minimise the extent and duration of construction dewatering required.	No change
C12.17	Develop an ASS management plan prior to construction work. In the plan, specify how onsite ASS disturbances should be managed in accordance with SPP2/02 and the methods set out in Queensland acid sulfate soil technical manual soil management guidelines (Dear et al., 2002). Common with Chapter 12, Contaminated Land and Acid Sulfate Soils.	No change
C14.04	Store fuels, chemicals and hazardous wastes in appropriately sized, bunded storage facilities (in leak proof sealed containers). Common with Chapter 31, Waste Management.	No change
C14.05	Where fuel or oil is contained in above ground storage facilities, ensure they are constructed with suitable secondary containment in accordance with Australian standards.	No change
C14.06	Maintain accurate records of fuels and oils stored in underground storage tanks to enable leak detection through quantity auditing.	No change
C13.12	Develop appropriate spill prevention and response plans to cover project activities and the types and quantities of fuel, oil and chemicals held at each site. Common with Chapter 13, Surface Water Hydrology and Water Quality, Chapter 16, Marine Water Quality and Sediment and Chapter 31, Waste Management.	No change
C14.07	Minimise site storage of brine products.	No change
C14.08	Collect sewage and greywater generated from the pioneer camp in portable disposal units or other mobile collection facilities. Use a licensed waste contractor to service the sewage facilities and dispose of effluent at a licensed waste management facility. Dispose of sewage from the mainland TWAF through a connection to the local sewerage network or ensure that it is collected in portable disposal units or other mobile collection facilities. Common with Chapter 31, Waste Management.	No change
C14.09	Implement engineering controls to minimise the extent of aquifer drawdown and saline water encroachment such as sheet piling of excavations or groundwater reinjection.	No change
C14.10	Follow standard guidelines for decommissioning of all monitoring bores including the Manual of Water Well Construction Practices (US EPA, 1977) and Minimum Construction Requirements for Water Bores in Australia (DNRME, 2003).	No change
Coastal Processes		
C15.01	Stabilise the shoreline, where required, at the high tide level where marine infrastructure is installed.	No change
C15.02	Develop a dredge management plan that considers the appropriate water and sediment monitoring data (e.g., current WBDD Project data) and will include:	No change
C15.03	• Requirements for monitoring of water quality. Common with Chapter 16, Marine Water Quality and Sediment and Chapter 19, Marine and Estuarine Ecology.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Coastal Processes (cont'd)		
C15.04	• Actions to be taken to minimise impacts of dredging on sensitive areas should water quality monitoring data show performance criteria are exceeded. Finalise specific actions in the dredge management plan. Common with Chapter 16, Marine Water Quality and Sediment and Chapter 19, Marine and Estuarine Ecology.	No change
C15.05	Implement management measures from the dredge management plan to address impacts from maintenance dredging.	No change
C15.06A	~~Decommission the LNG jetty and loading facilities in a similar fashion to the LNG Plant. Dismantle the LNG jetty and cut the piles off at the seafloor. Remove the structure and piles as scrap. Remove debris from the concrete deck and building foundations for disposal on land.~~ Subject to Landlord requirements, decommission the LNG jetty and loading facilities in a similar manner to the LNG Plant.	Amended to reflect anticipated tenure arrangements
C15.07	Leave the MOF and shore protection works at the LNG jetty (local benthic habitat and associated flora and fauna will have adapted to its presence over the operational life of the project).	No change
C15.08	Only demolish the mainland launch site if another use is not identified.	No change
Marine Water Quality and Sediment		
C16.01A	~~Design~~ If an RO plant is adopted, the design of the brine discharge outfall from the LNG Plant will include a three-port diffuser at the end of the pipeline located close to the water surface (or the ports angled towards the surface) to maximise dilution of the negatively buoyant discharge stream. Common with Chapter 31, Waste Management.	Minor change to clarify optionality around water supply and waste water disposal
C16.02	Obtain sediment samples from geotechnical drill cores to further characterise marine sediments disturbed during construction. Use the results to inform the development of the dredge management plan.	No change
C15.02	Develop a dredge management plan that considers the appropriate water and sediment monitoring data (e.g., current WBDD Project data) and will include:	No change
C15.03	• Requirements for monitoring of water quality. Common with Chapter 16, Marine Water Quality and Sediment and Chapter 19, Marine and Estuarine Ecology.	No change
C15.04	• Actions to be taken to minimise the impacts of dredging on sensitive areas should water quality monitoring data show performance criteria are exceeded. Finalise specific actions in the dredge management plan. Common with Chapter 15, Coastal Processes and Chapter 19, Marine and Estuarine Ecology.	No change
C16.03	Prior to discharge to Port Curtis, test and treat excess water at the mainland tunnel launch site in an onsite water treatment plant to meet water quality criteria.	No change
C16.04	Test and treat all discharges to Port Curtis to meet water quality criteria, as required, prior to discharge.	No change
C16.05	Develop spill response plans to cover marine activities, including all vessel operations.	No change
C16.06	Refuel vessels in designated areas where spill response kits are located.	No change
C13.13A	Train all relevant personnel in spill response and recovery procedures. Common with Chapter 13, Surface Water Hydrology and Water Quality, Chapter 14, Groundwater and Chapter 31, Waste Management.	Typographical error rectified

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Marine Water Quality and Sediment (cont'd)		
C16.07	Limit activities on vessels that may cause spillages to the deck to areas where deck water can be routed to and passed through oil/water separators (to meet water quality criteria) before discharge overboard.	No change
C16.08	Store solvents and other oil-based or flammable materials in accordance with applicable Queensland regulations.	No change
C16.09	Maintain a minimum practical inventory of hazardous materials on board vessels.	No change
C16.10	Store on board wastes produced by vessels that cannot be discharged under the MARPOL Convention and then transfer to an approved onshore facility for treatment, reuse, recycling or disposal.	No change
C16.11	Where practical, schedule the timing of maintenance dredging to coincide with the most favourable climatic conditions for minimising impacts to water quality and sediment (i.e., during neap tides when water currents are weakest or periods of calm winds and waves).	No change
C16.12	Source hydrostatic test water from Port Curtis, the town water supply or from fresh water generated in the reverse osmosis plant. Test and treat water to meet water quality criteria as necessary prior to discharge to Port Curtis.	No change
C16.13	Develop a detailed decommissioning plan for the site to include procedures and methods for managing effluent during decommissioning.	No change
C16.14	Develop water quality criteria in consultation with the regulator that reflect existing water quality conditions in the receiving environment, and implement these criteria through the conditioning process associated with statutory approvals such as the dredge management plan and specific environmental authorities.	New
Terrestrial Ecology		
C17.01	Prepare construction and operations environmental management plans. These documents are to include detailed information about significant flora and fauna species and their management and ongoing conservation. Include site-specific mitigation and details of monitoring and inspection to be undertaken, in the environmental management plans consistent with advice provided by government.	No change
C17.02A	~~Determine areas (if any) requiring to be offset in consultation with DERM and DSEWPC and other government stakeholders prior to commencement of construction. This is likely to include the two areas of endangered(Vegetation Management Act) remnant vegetation (RE 12.3.3; Assets 27 and 31) within the LNG plant site, and the *Cupaniopsis* sp.indet population.~~ Develop an Environmental Offsets Operational Management Plan that addresses terrestrial and marine offset requirements in consultation with relevant government stakeholders prior to commencement of construction. The plan will provide details on offset options and opportunities, and details on how the offset meets relevant policies and how it will be managed over the life of the offset. Common with Chapter 19, Marine and Estuarine Ecology.	Changed to include marine offsets and government stakeholders and to align with confirmed approach. Added common chapter.

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Terrestrial Ecology (cont'd)		
C17.03A	An area of semi-evergreen vine thicket community (containing the *Cupaniopsis* vegetation community) will be retained by the project on Boatshed Point. This area will be demarcated prior to the commencement of construction and workers and machinery will be prohibited from accessing the area. The boundary of the semi-evergreen vine thicket community to be retained will be fenced off with a 20-m buffer between the semi-evergreen vine thicket community (including the *Cupaniopsis* vegetation community) and the fence and area of disturbance. The retained vine thicket area is designed to protect a viable semi-evergreen vine thicket vegetation community and a viable population of *Cupaniopsis* sp. indet. on Boatshed Point. Do not develop within the fenced area of the retained semi-evergreen vine thicket community. Establish roles and responsibilities for the management of the retained semi-evergreen vine thicket community.	Amended for clarity
C17.04	A wildlife corridor of 20 m will be established on the eastern side of Boatshed Point to maintain connectivity between the semi-evergreen vine thicket community and the environmental management precinct.	No change
~~C17.05~~	~~Route the haul road for the Hamilton Point MOF option away from the eastern margin of the headland to avoid the critically endangered RE 12.2.2 (Microphyll/notophyll vine forest) on beach ridges.~~	Removed as Hamilton Point MOF option discontinued
C13.04	Design TWAF 8 to minimise disturbance to the of concern RE 11.3.4 ('*Eucalyptus tereticornis* and/or Eucalyptus spp. tall woodland on alluvial plains') to maintain connectivity of habitat along the Targinie Creek riparian zone. Common with Chapter 13, Surface Water, Hydrology and Water Quality and Chapter 18, Freshwater Ecology.	No change
C13.05	Where practical, align the perimeter fence at TWAF 8 to adopt the alignment of the existing fence where it crosses Targinie Creek. Common with Chapter 13, Surface Water, Hydrology and Water Quality and Chapter 18, Freshwater Ecology.	No change
C13.06	Design any intra-site access road crossing of Targinie Creek at TWAF 8 to include box culverts (or similar) to enable fauna movement under the road and along the wildlife corridor. Common with Chapter 13, Surface Water, Hydrology and Water Quality and Chapter 18, Freshwater Ecology.	No change
C17.06	Develop requirements for ecological watching briefs/wildlife spotter-catchers as well as procedures for addressing ecological issues as they arise during construction, operation and rehabilitation works.	No change
C17.07	Develop fauna relocation protocols as part of fauna management measures including procedures if fauna is found during clearing activities, including in hollows of trees to be felled.	No change
C17.08	Prepare a fauna management plan for the project.	No change
C17.09	Develop weed management measures prior to initiation of construction activities in accordance with local and regional management guidelines and best practice advice prescribed in DERM's pest control factsheet series.	No change
C17.10	Liaise with Biosecurity Queensland and Gladstone Regional Council on project biosecurity and pest management programs. Notify Gladstone Regional Council of any new declared or notifiable pest species. These programs should particularly focus on the boundaries of the project site with the Environmental Management Precinct.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Terrestrial Ecology (cont'd)		
C17.11	Develop and implement a mosquito management plan prior to construction that includes measures to control the occurrence of stagnant pools of water on the site especially after rainfall.	No change
C17.12	Develop and implement washdown strategies and procedures to prevent the spread of weeds.	No change
C17.13	Include measures in the pest management plan to control invasive plant species that may colonise the mudflats and degrade remaining habitat.	No change
C17.14	Prior to initiation of works, clearly mark access tracks to prevent secondary tracks becoming established. Use existing access tracks where practical. Where practical, the location and design of access tracks should avoid sites of high ecological value.	No change
C17.15	Locate construction equipment, laydown areas, turn-around areas, stockpiles and working areas within areas of existing disturbance where practical.	No change
	Implement measures to reduce the impacts of light from the LNG plant and ancillary facilities including:	No change
C17.16A	• Shield/direct the light source onto work areas where practical, and avoid light spill on to habitat areas (such as mangroves and Clinton ash ponds) where practical. Common with Chapter 19, Marine and Estuarine Ecology and Chapter 23, Landscape and Visual.	Changed to expand on intent of commitment
C17.17	• Use long-wavelength lights, where practicable, including use of red, orange or yellow lights. Common with Chapter 19, Marine and Estuarine Ecology.	No change
C17.18	• Lower the height of the light sources as far as practical. Common with Chapter 19, Marine and Estuarine Ecology.	No change
C17.19	• Avoid planned routine maintenance flaring at night during sensitive turtle reproductive periods (where practicable). Common with Chapter 19, Marine and Estuarine Ecology.	No change
C17.20	Design lighting around the perimeter of the LNG plant to minimise impacts on roosting shorebirds, where practical. Lowest possible luminescent globes should be used in sensitive areas, particularly around intertidal zones, where practical.	No change
C17.21	Design construction lighting on the causeway at the mainland tunnel entry shaft and tunnel spoil disposal area to minimise impacts on roosting shorebirds. The lowest possible luminescent globes should be used in sensitive areas, particularly around intertidal areas, where practical.	No change
C17.22	Induct all personnel prior to entering a project site, including on measures for managing the impacts on flora and fauna likely to be present. Common with Chapter 18, Freshwater Ecology.	No change
C17.23A	Clearly mark no go zones, where required, including the semi-evergreen vine thicket (*Cupaniopsis*) fenced area on Boatshed Point and the critically endangered ~~RE 12.2.2 on~~ EPBC Act listed vine thicket communities on the eastern margin of Hamilton Point ~~(if the Hamilton Point South MOF is selected),~~ and northeast of Boatshed Point. Signage will be erected around the margins of the communities to indicate restricted access.	Updated to provide specific guidance
C17.24	Prohibit access to the saltpans and fringing mangroves (RE 12.1.2 and 12.1.3) outside the planned area of disturbance of the mainland tunnel entry shaft and tunnel spoil disposal area.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Terrestrial Ecology (cont'd)		
C17.25	Conduct preclearance surveys across project areas to be cleared of vegetation. The surveys will aim to determine whether any threatened species are present at each site. Appropriate mitigation measures will be implemented if threatened species are confirmed within the area.	No change
~~C17.26~~	~~Inspect the likely white-bellied sea-eagle nest on Hamilton Point for activity during breeding season prior to clearance, if this option is pursued. If active, formulate appropriate management measures, should the Hamilton Point MOF option be pursued.~~	Removed as Hamilton Point MOF option discontinued
C17.27	Reduce vegetation clearing where practical and only after all other options such as selective clearing and trimming of vegetation have been considered.	No change
C17.28	Clearly mark trees for retention to avoid accidental clearing and develop clearance procedures prior to construction. The root zone should be adequately protected.	No change
C17.29	In areas where trees are planned to be left in place, take care to minimise damage to surrounding trees when felling trees into cleared areas or in natural slots between retained trees.	No change
C17.30	Inspect plants, soil, fill and any other such materials to be used in construction/rehabilitation works prior to entry to site. If supplied from within the fire-ant restricted area, these materials must be accompanied by a movement certificate or fire-ant declaration form. This also applies for the yellow crazy ant.	No change
C17.31	Prohibit pets of staff and contractors from entering the project area (unless assistance animals).	No change
C17.32	Adopt waste control measures to avoid introducing new external seed sources for exotic flora.	No change
C17.33	Prohibit hunting and trapping unless required for pest management.	No change
C17.34	Undertake all handling and management of fauna in compliance with permits issued by DERM.	No change
C17.35	Develop measures to prevent fauna entrapment and implement prior to construction where practical (e.g., the use of pipe caps if piping stored at ground level, string pipes with gaps for wildlife access).	No change
C17.36A	Develop trench ~~inspection~~ management procedures to prevent access of fauna into trenches. These procedures will include measures such as trench breakers and covers. In addition, inspection procedures will be established in order to remove trapped fauna, ~~establish~~ create protection and refuge areas for wildlife trapped in the trench and develop methods to assist trapped fauna left in the trench.	Updated to include refined management procedures
C17.37	Prohibit construction and operation activities within 'field' areas that are outside of the construction area of disturbance, i.e., areas exposed to bushfire fuels, during days of total fire ban.	No change
C17.38	Identify areas to be rehabilitated and develop procedures for restoration and maintenance.	No change
C17.39	Rehabilitate construction access tracks not required for operations.	No change
C17.40	Protect the EPBC Act listed community northeast of Boatshed Point and employ low impact methods of weed control within and adjacent to EPBC Act listed communities.	New commitment

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Terrestrial Ecology (cont'd)		
C17.41	Establish a management buffer of suitable width and of contiguous natural vegetation, around the EPBC Act listed community northeast of Boatshed Point to minimise the potential for edge effects and limit the potential for weed invasion. The buffer will be defined in the Wildlife Corridor Management Plan to be developed prior to construction.	New commitment
C17.42	Implement fire control measures to prevent wildfire incursion into the EPBC Act listed communities. This may include construction of firebreaks or asset protection burning outside of the community and its associated buffer.	New commitment
C17.43	Detail the need to protect EPBC Act listed communities and explain mitigation measures that are to be implemented in workforce inductions.	New commitment
C17.44	Clearly delineate clearing boundaries prior to clearing commencing to avoid unnecessary vegetation loss.	New commitment
C17.45	Where practical, stock-pile cleared vegetation in 'wind-rows' around the edge of retained vegetation. In addition to providing shelter, this will also provide some physical barrier reducing edge impact severity and the risk of weed spread.	New commitment
C17.46	Minimise the duration trenches are open, ensure daily trench inspections are undertaken by suitably qualified spotter/catchers and ensure that the length of open trench does not exceed that which can be inspected by the available spotter/catchers in any one daily period.	New commitment
C17.47	Consider measures to minimise light emitted from the LNG plant during the detailed design of the LNG plant including: • Assess the necessity and choice of lighting in the plant area: – Use low-pressure sodium (LPS) lights as a first-choice light source and high-pressure sodium (HPS) lights where LPS is not practical. – Replace short-wavelength light with long-wavelength light and exclude short-wavelength light with the use of filters. – Avoid using halogen, metal halide or fluorescent lights (white lights) where possible, and only use white lights in contained areas where colour rendition is required. – Minimise the number and wattage of lights, and recess lighting into structures where possible. • Use timers and motion-activated light switches. • Use reflective materials to delineate equipment or pathways and use embedded lighting for roads. • Position doors and windows on the sides of buildings facing away from marine turtle nesting beaches and install and use window coverings to reduce light emissions. • Maintain elevated horizons (such as topographic features, vegetation or barriers) to screen rookery beaches from light sources. Common with Chapter 19, Marine and Estuarine Ecology.	New commitment
C17.48	If koalas are found during wet season surveys to be undertaken in early 2013 or pre-clearance surveys, develop and implement appropriate mitigations in the species management plan which could include fauna spotter/catchers, limiting vehicle speed limits and habitat rehabilitation.	New commitment
C17.49	Design infrastructure to reduce impacts on shoreline habitat, where possible, and reduce the risk of unnecessary clearing by demarcating disturbance areas prior to the disturbance commencing.	New commitment

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Terrestrial Ecology (cont'd)		
C17.50	Reduce lighting wherever possible, in locations where movement between water mouse foraging and nesting habitats (e.g., between mangroves and the supralittoral zone) occurs.	New commitment
C17.51	Review the need for an ongoing program to monitor the shorebird population at project sites following the completion of survey work in 2013.	New commitment
C17.52	Develop measures to minimise disturbance around important shorebird habitat, during construction and operation. Measures could include exclusion zones or screens as recommended in Rohweder et al., (2011).	New commitment
Freshwater Ecology		
C13.04	Design TWAF 8 to minimise disturbance to the of concern RE 11.3.4 ('*Eucalyptus tereticornis* and/or *Eucalyptus* spp. tall woodland on alluvial plains') to maintain connectivity of habitat along the Targinie Creek riparian zone. Common with Chapter 13, Surface Water Hydrology and Water Quality and Chapter 17, Terrestrial Ecology.	No change
C13.05	Where practical, align the perimeter fence at TWAF 8 to adopt the alignment of the existing fence where it crosses Targinie Creek. Common with Chapter 13, Surface Water Hydrology and Water Quality and Chapter 17, Terrestrial Ecology.	No change
C13.06	Design any intra-site access road crossing of Targinie Creek at TWAF 8 to include box culverts (or similar) to enable fauna movement under the road and along the wildlife corridor. Common with Chapter 13, Surface Water Hydrology and Water Quality and Chapter 17, Terrestrial Ecology.	No change
C18.01	Implement strategies and protocols relevant to the protection of freshwater aquatic communities, habitat and processes, as detailed in the Australian Pipeline Industry Association Code of Environmental Practice: Onshore Pipelines (APIA, 2009) as part of the project.	No change
C13.07	Keep the footprint of the mainland tunnel entry shaft and tunnel spoil disposal area to a minimum of 500 m clear of Boat Creek. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change
C17.22	Induct all personnel prior to entering a project site, including on measures for managing the impacts on flora and fauna likely to be present. Common with Chapter 17, Terrestrial Ecology.	No change
C13.22	Where works are required in watercourses, they will be confined to reduced width construction right of ways that preserve, to the extent practical, the integrity of the riparian vegetation and any associated wildlife corridors. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change
C18.02	Limit the clearing of riparian vegetation to that necessary for safety.	No change
C13.16	Where waterway crossings are necessary, cross ephemeral streams in preference to permanent streams, where practical. Where pipeline waterway crossings are necessary, approach stream crossings perpendicular to the stream where practical, to reduce bank erosion risk and minimise the footprint within the bed and riparian zone. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change
C11.09	Avoid works near stream banks during periods of heavy rainfall where possible. If works cannot be timed to avoid heavy rainfall, adopt additional measures, such as the use of berms and silt fences. Common with Chapter 11, Geology, Landform and Soils and Chapter 13, Surface Water Hydrology and Water Quality.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Freshwater Ecology (cont'd)		
C18.03	Prevent staff and contractors from camping, fishing or carrying out other recreational activities in waterways in the project area while on shift, to prevent the accidental introduction of aquatic pest species on fishing gear or bait.	No change
C13.20	Undertake earthworks and rehabilitation activities to facilitate drainage and reduce the potential for standing water to accumulate. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change
C13.21	Avoid discharging tail water from the tunnel spoil disposal area into Boat Creek. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change
C18.04	Define and adhere to machinery hygiene protocols to prevent the translocation of pest species, particularly weeds such as salvinia, cumbungi and para grass.	No change
C13.15	Do not abstract freshwater from watercourses, or dispose of effluent directly into freshwater watercourses, except clean stormwater. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change
Marine and Estuarine Ecology		
C19.01A	Develop a construction environmental management plan, which contains specific mitigation measures, performance indicators and management actions required to reduce impacts to the marine and estuarine ecological values.	Changed for improved definition
~~C19.02~~	~~Establish a marine offsets strategy for the project to compensate for the loss of marine and estuarine habitat as a result of the project.~~	Deleted and replaced with updated C17.02A
C17.02A	~~Determine areas (if any) requiring to be offset in consultation with DERM and DSEWPC and other government stakeholders prior to commencement of construction. This is likely to include the two areas of endangered(Vegetation Management Act) remnant vegetation (RE 12.3.3; Assets 27 and 31) within the LNG plant site, and the *Cupaniopsis* sp.indet population.~~ Develop an Environmental Offsets Operational Management Plan that addresses terrestrial and marine offset requirements in consultation with relevant government stakeholders prior to commencement of construction. The plan will provide details on offset options and opportunities, and details on how the offset meets relevant policies and how it will be managed over the life of the offset. Common with Chapter 17, Terrestrial Ecology.	Changed to include marine offsets, government stakeholders and align with confirmed approach. New to Marine and Estuarine Ecology.
	Implement measures to reduce the impacts of light from the LNG plant and ancillary facilities including:	No change
C17.16A	• Shield/direct the light source onto work areas where practical, and avoid light spill on to habitat areas (such as mangroves and Clinton ash ponds) where practical. Common with Chapter 17, Terrestrial Ecology and Chapter 23, Landscape and Visual.	Changed to expand on intent of commitment
C17.17	• Use long-wavelength lights, where practical, including use of red, orange or yellow lights. Common with Chapter 17, Terrestrial Ecology.	No change
C17.18	• Lower the height of the light sources as far as practical. Common with Chapter 17, Terrestrial Ecology.	No change
C17.19	• Avoid routine planned maintenance flaring at night during sensitive turtle-reproductive periods (where practical). Common with Chapter 17, Terrestrial Ecology.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Marine and Estuarine Ecology (cont'd)		
C15.02	Develop a dredge management plan that considers the appropriate water and sediment monitoring data (e.g., current WBDD Project data) and will include:	No change
C15.03	• Requirements for monitoring of water quality. Common with Chapter 15, Coastal Processes and Chapter 16, Marine Water Quality and Sediment.	No change
C15.04	• Actions to be taken to minimise impacts of dredging on sensitive areas should water quality monitoring data show performance criteria are exceeded. Finalise specific actions in the dredge management plan. Common with Chapter 15, Coastal Processes and Chapter 16, Marine Water Quality and Sediment.	No change
C19.03	Comply with environmental and legal criteria of the Queensland Government environmental offsets policy as the overarching framework for a specific-issue offset policy.	No change
C19.04	Contribute to the development of a Port of Gladstone shipping activity strategy and management plan. Comply with applicable speed limits for the Port of Gladstone-Rodds Bay Zone B dugong protection area, as detailed in the management plan.	No change
C19.05	Install (where feasible) propeller guards (or equivalent) on high-speed vessels to reduce the impact of injury in the event of boat strike.	No change
C19.06	Implement soft-start procedures where a sequential build-up of warning pulses will be carried out prior to commencement of full-power pile-driving activities. Common with Chapter 22, Noise and Vibration.	Updated – added common chapter
C19.07	Undertake fauna observations prior to and during pile-driving and dredging activities to check for the presence of marine turtles, dugongs and cetaceans. Should fauna be spotted within the area of the works, implement procedures to minimise impact, such as reverting to soft-start piling or stopping temporarily to allow animals to move away from the area.	No change
C19.08	Keep dredging activities within the identified dredge footprint area.	No change
C19.09	Maintain a fauna-spotting function (where practical) during dredging activities. Do not commence dredging if marine mammals, turtles or crocodiles are spotted within the area of dredging, and stop temporarily if fauna is spotted within the area of the dredge head. In both cases, resumption of dredging must wait until fauna has moved away.	No change
C19.10	Project vessels servicing the LNG plant that originate from overseas ports must comply with Commonwealth and local government ballast water management systems and implement Australian Quarantine and Inspection Service hull hygiene measures.	No change
C19.11	All project vessels must comply with all applicable maritime law, especially when passing through the GBRMP. Project vessels will traverse the marine park via designated navigation routes with pilotage as required within port boundaries.	No change
C19.12	Establish a system for the recording of opportunistic observation of marine megafauna (turtles, salt-water crocodiles, dugong and cetaceans) spotted during marine operations such as dredging, pile driving and marine transport including where these activities occur within the Calliope River. Common with Chapter 22, Noise and Vibration.	New commitment

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Marine and Estuarine Ecology (cont'd)		
C19.13	Evaluate the use of bubble curtains for each method of piling, and deploy where they are demonstrated to be effective in aiding the rapid attenuation of underwater noise and deterring marine fauna from approaching, or remaining at, pile driving sites. Common with Chapter 22, Noise and Vibration.	New commitment
C17.47	Consider measures to minimise light emitted from the LNG plant during the detailed design of the LNG plant including: • Assess the necessity and choice of lighting in the plant area: – Use low-pressure sodium (LPS) lights as a first-choice light source and high-pressure sodium (HPS) lights where LPS is not practical. – Replace short-wavelength light with long-wavelength light and exclude short-wavelength light with the use of filters. – Avoid using halogen, metal halide or fluorescent lights (white lights) where possible, and only use white lights in contained areas where colour rendition is required. – Minimise the number and wattage of lights, and recess lighting into structures where possible. • Use timers and motion-activated light switches. • Use reflective materials to delineate equipment or pathways and use embedded lighting for roads. • Position doors and windows on the sides of buildings facing away from marine turtle nesting beaches and install and use window coverings to reduce light emissions. • Maintain elevated horizons (such as topographic features, vegetation or barriers) to screen rookery beaches from light sources. Common with Chapter 17, Terrestrial Ecology.	New commitment
C19.14	A light mitigation plan for construction and operation will be developed and will include specific light management and reduction measures and a commitment to routine light audits.	New commitment
C19.15	Arrow Energy will participate in monitoring programs established to assess the impact of current and future industrial lighting in the Gladstone region on turtle hatchlings emerging on the beaches of Curtis and Facing islands.	New commitment
Greenhouse Gas		
C20.01	Develop and implement a greenhouse gas standard as part of Arrow's HSEMS.	No change
C20.02	Identify and consider measures to reduce emissions intensity and improve the energy efficiency of the different project components throughout the design process.	No change
C20.03	Minimise greenhouse gas emissions through the progressive clearing of areas and implement rehabilitation as soon as practical.	No change
Air Quality		
C21.01	Design the LNG plant to comply with the air quality assessment criteria, which are based upon all relevant air quality standards and objectives. Compliance with these criteria will ensure protection of environmental values within the air quality impact assessment study area and all sensitive receptor areas.	No change
C21.02	Where feasible, apply low-emission technology to equipment with high combustion rates (e.g., gas turbines).	No change
C21.03	Fit compressors and boil-off gas recovery systems with dry gas seals and where practical, hydrocarbon pumps will be fitted with double seals.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Air Quality (cont'd)		
C21.04	Minimise fugitive emissions from sources such as pumps, seals, valves, connectors and pipe work via the application of the latest proven stage of development processes, facilities and methods of operation. These include using closed drainage, where practical, minimising the number of flanges, installing dry gas seals on compressors and vapour recovery systems and where applicable, double seals for hydrocarbon pumps.	No change
C21.05	Incorporate waste heat recovery units on the compressor drive gas turbine exhausts to provide process heat to use elsewhere in the LNG plant, thereby reducing operational requirements for gas-fired heaters.	No change
C21.06	Fit all stacks with emissions monitoring ports suitable for continuous monitoring even if continuous monitoring is not currently required to facilitate future monitoring should the need arise.	No change
C21.07	Reduce exposure time of bare soils on the ground surface as far as practicable, and undertake revegetation of bare surfaces as soon as practical following construction.	No change
C11.20	Control speed limits on site via posted speed limit signs and confine vehicles generally to marked trafficable areas. Common with Chapter 11, Geology, Landform and Soils.	No change
C11.21	Keep trafficked surfaces damp during construction with sprayed water when conditions are dry to suppress dust generation. Use water of a similar quality to that which is available in the locality and do not spray as concentrated flow. Common with Chapter 11, Geology, Landform and Soils.	No change
C21.08	Maintain construction vehicles and equipment regularly to reduce exhaust emissions.	No change
C21.09	Where practical, use low-sulfur diesel fuel in diesel-powered equipment (i.e., not more than 0.01% sulfur by mass).	No change
C21.10	Do not use chlorofluorocarbons (CFC), halogens or related materials listed as banned under the Montreal Protocol in new installations.	No change
C21.11	Where practical, limit the volume of hydrocarbons flared or vented to the atmosphere from the LNG plant. Ensure that the flare is luminous and bright (i.e., show smokeless combustion at operating design gas flow rate) and the relative density of emitted smoke does not exceed No.1 Ringelmann Number.	No change
C21.12	Do not vent boil-off gas to the atmosphere; instead route it to the feed gas inlet for reprocessing or sent to the end flash gas compressor for use in the high-pressure fuel gas system.	No change
C21.13	Use low-sulfur fuel in diesel-powered generators will (not more than 0.01% sulfur by mass).	No change
C21.14	Maintain equipment in accordance with manufacturer specifications in order to minimise fugitive emissions.	No change
Noise and Vibration		
C22.01	Identify during the detailed design of the LNG plant, specific acoustic treatment to be applied to each noise source.	No change
C22.02	Where practical, locate noise-making equipment to maximise the distance between noise sources (e.g., diesel generators) and sensitive receptors. The use of structures or natural topography to create barriers to noise may be used to lessen the noise impacts on sensitive receptors.	No change
C22.03	Include appropriate methods to manage blasting activities in the construction environmental management plan. If required, carry out blasting activities in accordance with the guidelines for blasting noise and vibration.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Noise and Vibration (cont'd)		
C22.04	Regularly maintain all machinery and equipment and check for excessive noise generation.	No change
C22.05A	Where noise from a construction activity would exceed the project night time noise criteria of ~~45~~40 dB(A) at a sensitive receptor, schedule, where practical construction activities to occur between 7.00 a.m. and 10.00 p.m.	Updated criteria
C22.06	Continually review the timing of construction activities to identify opportunities to reschedule concurrent activities where excessive noise is expected.	No change
C22.07	Ensure that project related noise generated during operation complies with the project noise criteria at all assessment locations.	No change
C22.08	If blasting is considered necessary, standard practices will be followed so that all blasting activities will be designed to meet the relevant overpressure and ground-vibration criteria at sensitive receptor locations.	New commitment
C19.06	Implement soft-start procedures where a sequential build-up of warning pulses will be carried out prior to commencement of full-power pile-driving activities. Common with Chapter 19, Marine Ecology.	Updated – now common with noise
C19.12	Establish a system for the recording of opportunistic observation of marine megafauna (turtles, salt-water crocodiles, dugong and cetaceans) spotted during marine operations such as dredging, pile driving and marine transport including where these activities occur within the Calliope River. Common with Chapter 19, Marine Ecology.	New commitment
C19.13	Evaluate the use of bubble curtains for each method of piling, and deploy where they are demonstrated to be effective in aiding the rapid attenuation of underwater noise and deterring marine fauna from approaching, or remaining at, pile driving sites. Common with Chapter 19, Marine Ecology.	New commitment
Landscape and Visual		
C23.01	Protect the tip of Boatshed Point from clearing and cutting to preserve areas of vegetation that help screen lower parts of the LNG plant and construction camp.	No change
C23.02	Where practical, retain the vegetation along the eastern boundary of the LNG plant site to provide some screening to views from the east.	No change
C23.03	Consider potential landscape and visual impacts where there are options for the siting of infrastructure.	No change
C23.04	Where practical, undertake further modifications to the development footprint during detailed design to minimise cutting into the high ground of the Curtis Island strike ridge system and to assist in maintaining a vegetated backdrop and visually absorbing the built form of the development.	No change
C23.05	Investigate potential areas for further retention of vegetation cover at all sites where practical.	No change
C23.06	Investigate opportunities for further planting of a forested landscape buffer around the eastern, southern and western boundaries of the LNG plant site, using bush regeneration techniques and endemic tree species of local provenance consistent, to the greatest extent, with the bushfire strategy.	No change
C23.07	Select materials that are sensitive to the site context where plant operability is not impacted.	No change
C23.08	Use a colour palette for built form that blends with the predominant background colours and which reflects natural hues from the surrounding landscape where plant operability is not impacted.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Landscape and Visual (cont'd)		
C23.09	Investigate the use of new insulating paints that may allow greater flexibility in the colour of LNG structures without compromising plant operability or safety aspects.	No change
C23.10	Undertake the detailed lighting design in line with Australian standards.	No change
C23.11	Design aviation lighting to be consistent with the Gladstone Airport Obstacle Limitation Surface Plan (Randl, 2011).	No change
C23.12	Design shore protection to reflect natural forms, where practical.	No change
C23.13	Use industry standards for the construction camp to minimise landscape and visual impacts.	No change
C23.14	Develop landscape and rehabilitation plans for all project sites, particularly the selected TWAF site, which will require remediation after the first construction phase.	No change
C23.15	Consider visibility of stockpiles when siting these within laydown areas, i.e., use laydown areas that are more enclosed in preference to more open areas, wherever practical.	No change
C23.16	Investigate planting at the top, toe and on the retaining structure where terracing is undertaken.	No change
C23.17	Consider planting of bands of screening vegetation parallel with the shoreline between elements of the LNG plant if terracing is considered impractical on Curtis Island.	No change
C23.18	Remove temporary structures following completion of construction works and where appropriate, undertake detailed grading of disturbed surfaces to achieve appropriate ground levels.	No change
C23.19	Undertake planting rehabilitation works at the earliest opportunity to minimise erosion and the presence of areas of bare soil (except where technical studies indicate an alternative approach).	No change
C23.20	Minimise night-time working and associated lighting impacts for activities (including construction of the LNG plant). Limit construction activities that need to be highly lit to daytime hours (to the greatest extent practical).	No change
C17.16A	• Shield/direct the light source onto work areas where practical, and avoid light spill on to habitat areas (such as mangroves and Clinton ash ponds) where practical. Common with Chapter 17, Terrestrial Ecology and Chapter 19, Marine and Estuarine Ecology.	Changed to expand on intent of commitment
C23.21	Use 'passive' lighting methods, where practical. These include reflective roadway markers, lines, warnings or information signs and furnishing reflectors.	No change
C23.22	Consider use of solar-powered LED studs, or similar, in roadways and paths of travel as an alternative to permanent lighting, where practical.	No change
C23.23	As part of the decommissioning plan to be developed for the project, investigate an appropriate after use of project areas including any rehabilitation requirements as appropriate.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Indigenous Cultural Heritage		
C24.01	Develop an approved CHMP or a native title agreement that addresses Aboriginal cultural heritage in consultation with the endorsed Aboriginal parties for the project.	No change
C24.02	Comply with the approved CHMP or native title agreement that addresses Aboriginal cultural heritage.	No change
C24.03	Consider the cultural heritage management principles set out in Section 7.2.3 of Appendix 18, Indigenous Cultural Heritage Impact Assessment, completed for the project when developing a CHMP or native title agreement that addresses Aboriginal cultural heritage. Agree final principles with the relevant Aboriginal parties or native title parties.	No change
Non-indigenous Cultural Heritage		
C25.01	Prepare a heritage management plan prior to construction and which specifies how known and unknown heritage sites are to be managed during construction.	No change
C25.02	Record the following sites in detail prior to construction and destruction: • Site No. 3: Post-cutting site. • Site No. 4: Old yards. • Site No. 5: Stock enclosure. • Site No. 6: Historic fence line. • Site No. 7: Pre-1870 track alignment. • Site No. 8: Ruins of rendered brick building. • Site No. 11: Various fence alignments (Targinnie).	No change
C25.03	Map the "Birkenhead" outstation (Site No. 1) and record in detail prior to construction activities. Archaeological traces of this site may exist and remote sensing and excavation may be employed prior to construction to identify the extent of cultural heritage.	No change
C25.04	The location of the grave (Site No. 2) at "Birkenhead" outstation is unknown. Employ remote sensing techniques prior to construction to try to locate the grave. Relocate the grave to an alternative location if discovered, to protect it from construction activities.	No change
C25.05	If the grave is not discovered prior to construction, implement a procedure for accidental discovery of remains in this area.	No change
C25.06	Include in the heritage management plan prepared prior to construction, requirements for accidental discovery and management of cultural heritage items or human remains. Conflict resolution and other contingencies will also be addressed in the plan.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social		
C26.01A	Continue to liaise with other LNG proponents to determine cumulative workforce housing requirements and to determine whether the private market is able to provide sufficient dwellings in the local area for the construction and operation workforces. This will be informed by ~~Use~~ house price and rental data from the REIQ's Queensland Market Monitor and Department of Communities, Child Safety and Disability Services Housing Market Report ~~to determine whether the private market is able to provide sufficient dwellings in the local area for the construction and operation workforces.~~	Changed following SIMP update
C26.02A	~~Identify viable housing options for housing the non-local construction workforce likely to reside outside of the construction camps, minimising sourcing housing in the private rental market for non-permanent staff unless vacancy rates increase to 3% or higher. Possible options could include:~~ Identify options to meet the demand for dwellings, which minimises the use of rental properties unless vacancy rates increase to 3% or higher. Possible options could include: • Providing rental guarantees or other incentives to private investors to encourage the construction of new housing stock which can be used by project staff ~~and remain available for the wider community following the end of the construction phase~~. • Encouraging all non-local employees to live in company facilitated housing ~~TWAF~~ unless they have families or other circumstances that make this impractical. • Providing direct and indirect investment in the housing market. • Providing accommodation advice services for workers and their families. Common with Chapter 27, Economics.	Changed following SIMP update
C26.03	Continue to engage with the Office of the Coordinator-General and other LNG proponents to identify co-operative strategies that address cumulative housing impacts.	Changed following SIMP update
C26.04	Collect data on where workers are residing and whether they have a family with them. Determine the level of local employment and the likely number of non-local workers and their families seeking accommodation in the study area. Common with Chapter 27, Economics.	No change
C26.05	Continue to provide data to state and local government to facilitate the creation of a common data set across all major projects. The data collected will be in the format already agreed between existing proponents and the Office of the Coordinator General.	No change
C26.06A	Develop a construction workforce accommodation strategy within 12 months of awarding the EPC contract. The strategy will identify the preferred approach for facilitating ~~of~~ up to 90 houses during the construction phase ~~and increasing up to 130 houses for long term housing for the non-local operational workforce (at Stage1) through the project accommodation strategy~~. This will be based on ~~e strategy should assess~~ the state of the market to meet this project generated demand and ~~make the~~ required market interventions to minimise adverse impacts upon the community. Common with Chapter 27, Economics.	Changed following SIMP update

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social (cont'd)		
C26.07A	Through the construction workforce accommodation strategy, include a commitment to company facilitated accommodation to meet the anticipated demand for up to 380 beds ~~in company facilitated accommodation for~~ during construction of trains 1 and 2. ~~management (Arrow Energy and contractor) single status workers and 225 beds for operational workers at Stage 1 through the project accommodation strategy~~. It is anticipated that all of these beds will be provided in company facilitated communal accommodation which may be met directly by the project, either through the development of purpose built accommodation or through agreements with third party providers. Examples of the company facilitated communal accommodation include: • Medium to high density developments. • Third party construction camps already operational in the Gladstone Region. • Pioneer workers camp on the mainland. • Rental properties where market conditions allow. Common with Chapter 27, Economics.	Changed following SIMP update
C26.08A	Identify opportunities through the construction workforce accommodation strategy to bring forward facilitation of housing intended for the operations workforce that can be used for the construction workforce. Common with Chapter 27, Economics.	Changed following SIMP update
C26.09A	Provide information on the Arrow Energy website on actions taken to meet project housing needs ~~and key data on workforce numbers and approximate numbers housed within the community~~. Common with Chapter 27, Economics.	Changed following SIMP update
C26.10	Collaborate with other proponents in the region and identify opportunities to share temporary accommodation where possible for the construction and maintenance workforces. Common with Chapter 27, Economics.	No change
C26.11	Inform the tourist industry and other peak business bodies of anticipated time frames for peak temporary accommodation demand. Common with Chapter 27, Economics.	No change
C26.12A	Work with the ~~Urban Land Development Authority~~ Queensland Government, Gladstone Regional Council and affordable housing providers to identify opportunities in the study area to bring additional affordable housing to market for existing residents. Common with Chapter 27, Economics.	Changed following SIMP update
~~C26.13~~	~~Work with the state government, the Gladstone Regional Council and the Indigenous community to identify opportunities to provide assistance to not-for-profit housing providers to support the Indigenous community.~~ ~~Common with Chapter 27, Economics.~~	Removed and addressed through 26.14
C26.14A	Provide $6.5 million towards the development of affordable housing options in Gladstone ~~or in kind support of the same value to other non government providers of social housing~~. Arrow Energy has met with and agreed to contribute to GAH following FID. This includes a position on the reference group. Common with Chapter 27, Economics.	Changed following SIMP update
C26.15	Provide information on the Arrow Energy website on actions taken to support affordable housing initiatives to offset housing impacts. Common with Chapter 27, Economics.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social (cont'd)		
C26.16A	Provide $1 million ~~in financial assistance to the GRC~~ for emergency rental assistance to GRC for distribution. Arrow Energy has commenced discussions with GRC and will continue to work with them to develop the criteria and distribution processes for access to ERA funding. This is intended to ensure that it reflects local community needs and compliments the current agreements within the ERA program with the other proponents. Common with Chapter 27, Economics.	Changed following SIMP update
~~C26.17~~	~~Expand the opportunities available for the region under the Brighter Future's program and the Social Investment Plan.~~	Removed Updated in another commitment
C26.18A	Design ~~and construct~~ the workers camp to have sufficient social and recreational facilities to cater for recreational, fitness and entertainment requirements.	Changed following SIMP update
C26.19	Develop and provide workers with an induction and welcome kit which includes a statement of community expectations for new arrivals. Where FIFO workers come from overseas, ensure they are provided with an adequate Australian cultural awareness briefing and information on how to undertake day to day activities, for example banking or shopping.	No change
C26.20A	Consult with the GRC and RCCC to identify which social, community or recreational infrastructure is being directly impacted by the project and to what extent. ~~Liaise with the relevant body, for example the Gladstone Foundation, to coordinate efforts across all proponents and identify projects that may provide an equivalent offset or mitigation of impacts.~~ Work with the Office of the Coordinator General and Gladstone Regional Council to identify the most suitable mechanism to coordinate efforts across all proponents and identify projects that may provide an equivalent offset or mitigation of impacts. Invest up to $3.5 million in identified projects to offset or mitigate the impacts of the project (comparative with the other LNG proponents).	Changed following SIMP update
C26.21	Ensure that there are no ongoing restrictions on the Calliope River boat ramp or Gladstone Marina during the operation of the project.	No change
C26.22	Prohibit non local construction workers and operators from engaging in fishing, crabbing or boating in any exclusion zone.	No change
C26.23	Prohibit all FIFO workers (with the exception of traditional owners) from fishing, crabbing and boating in the Gladstone Regional Council area, whilst on shift/ living in the construction camps.	No change
C26.24	Continue to provide state and local government departments responsible for educational, health and other social infrastructure with forecasts of workforce numbers and projected families to assist in their future service planning. This information will be provided in an agreed format that will allow these departments to plan for cumulative population change.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social (cont'd)		
C26.25A	Arrow Energy acknowledges it has a shared responsibility with government, and society more broadly, to help facilitate the development of strong and sustainable communities. It is committed to managing the residual social impacts of its activities that cannot be avoided or sufficiently minimised and to contributing to the social and economic wealth of the communities in which it operates through its social investment program. This program is comprised of the Brighter Futures Program, community funding, sponsorships and partnerships and has been running in Brisbane, Gladstone, the Surat and Bowen Basins and its exploration tenements since 2011. Arrow Energy is committed as a part of this action plan to support and expand its social investment in the areas in which it operates to support projects and initiatives in areas identified in the SIMP. ~~Post details on the Arrow Energy website of~~ Information will also be provided on projects that receive funding or in kind support to offset or mitigate direct project impacts.	Changed following SIMP update
C26.26A	~~Publically release~~ Details of the Brighter Future program for Gladstone will be released on the Arrow Energy website. This will include information on criteria for funding, funds expended, processes for applying and how often funding will be available for applications.	Changed following SIMP update
C26.27A	~~Identify the most appropriate methods to recruit and retain Indigenous Australians. This will be done in consultation with DEEDI, Traditional owners and other relevant Indigenous community representatives.~~ Register the Indigenous Land Use Agreement (ILUA) that was negotiated for the project site, harbour and port area in March 2012.	Changed following SIMP update
C26.28A	~~For underemployed or unemployed Indigenous people, identify apprenticeships or traineeships that could be made available.~~ ~~Skills set summaries for these positions will be provided to work ready programs to allow them to tailor their training. These roles will be quarantined for successful Indigenous participants in the work ready programs.~~ Implement Arrow Energy's Aboriginal and Torres Strait Islander Action Plan, including those actions that focus on employment for Indigenous Australians, including: • Recruiting and retaining Aboriginal and Torres Strait Islander staff. • Connecting Aboriginal and Torres Strait Islander people with business and employment opportunities. • Arrow Energy has engaged in preliminary discussions with DSDIP, the Department of Aboriginal and Torres Strait Islander and Multicultural Affairs (DATSIMA) and DEEWR in relation to Indigenous employment, training and business development opportunities associated with the project. The focus of these discussions has been on developing Indigenous employment within Arrow Energy's supply chain. Actions being considered include: • Identifying apprenticeships or traineeships that could be made available to Indigenous people. For underemployed or unemployed Indigenous people skills set summaries for these positions will be provided to work ready programs to allow them to tailor their training. These roles will be quarantined for successful Indigenous participants in the work ready programs. • Identifying the most appropriate opportunities for Indigenous businesses to competitively tender to provide goods or services to the project during the operations stage. • Sending information about the opportunities identified above to relevant businesses, or business groups.	Changed following SIMP update

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social (cont'd)		
C26.29A	~~Identify the most appropriate opportunities for Indigenous businesses to competitively tender to provide goods or services to the project during the operations stage.~~ ~~Send information about these opportunities to the relevant businesses, or business groups. Arrow Energy website.~~ Ensure that Indigenous persons and businesses will be able to take advantage of initiatives outlined in both the Australian Industry Participation Plan and the workforce and training plan.	Changed following SIMP update
C26.30A	Continue the Arrow Energy Whanu Binal project and provide assistance, such as business mentoring, to Traditional Owners and other interested members of the Indigenous community with developing business opportunities and capacity. ~~alignment with~~ Arrow Energy's ~~Indigenous Engagement team~~ Whanu Binal project targets Indigenous businesses and helps them develop the capacity and capability to successfully tender for major projects, including Arrow Energy projects. It also aims to help build the skills and knowledge of existing and potential workforces. Examples of the type of activities that occur as part of this ~~assistance~~ project include: • Identification of opportunities to allow joint partnering. • Briefings on what business systems and insurances are required to work on the project. • Information on government programs that exist to help Indigenous businesses. • Information on how to pool resources across businesses to tender on larger parcels of work. ~~The Arrow Energy procurement team and the officer responsible for Indigenous Engagement will provide this assistance.~~	Changed following SIMP update
C26.31A	~~Require~~ Ensure major contractors develop a plan that ~~will~~ clearly identifies Indigenous opportunities (employment and business) on the project.	Changed following SIMP update
~~C26.32~~	~~An Arrow Energy officer will be made responsible for Indigenous engagement to encourage participation and integration of Indigenous employees and track their welfare.~~	Removed Updated in another commitment

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social (cont'd)		
C26.33A	Ensure that appropriate cultural awareness training is provided to all workers on the project. Arrow Energy ~~will implement~~ is committed to providing a workplace where all personnel are treated fairly and with dignity and respect. To facilitate this, it has been mandatory since 2011 for all Arrow Energy personnel (including contractors) to participate in ~~an Indigenous~~ cultural awareness training within the first three months of employment or engagement by the company. ~~program for construction and operation staff and contractors. The workforce will be exposed to the program during induction.~~ Training is delivered by Indigenous presenters from Corporate Culcha, an Indigenous-owned and operated company specialising in building capacity to engage with, recruit and retain Indigenous Australians. The intended outcomes are that staff and contractors can engage and work effectively with Indigenous people, suppliers and communities. This in turn is intended to ensure that Indigenous staff are understood, respected and retained in the organisation, and that Arrow Energy maintains positive relationships with Indigenous communities. Arrow will ensure that an appropriate cultural heritage training will be developed and delivered to all workers on the project, consistent with the principles in the current corporate cultural heritage training.	Changed following SIMP update
C26.34A	Identify the range of skill sets required for the labour force and provide this information to relevant agencies. Undertake a gap analysis against existing skills availability and identify in consultation with relevant agencies,~~. Where gaps exist in consultation with the Department of Education and Training identify the method or~~ appropriate strategies ~~through which these skills will be filled~~ to fill these gaps, e.g., FIFO/DIDO or training. Common with Chapter 27, Economics.	Changed following SIMP update
C26.35	Determine how to maximise local employment opportunities and develop a recruitment plan to identify what positions will be targeted without negatively impacting on the availability of local services. Common with Chapter 27, Economics.	No change
C26.36	Develop a policy that facilitates equal opportunity for all suitably qualified persons.	No change
C26.37	Where appropriate, identify opportunities where training provided by the project or other training providers will be able to meet skills gaps in the community for the project to assist in maximising local employment opportunities. Common with Chapter 27, Economics.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social (cont'd)		
C26.38A	Develop a policy identifying training pathways for students and school leavers to assist students in gaining employment upon graduation. This will be done in consultation with SAIN, EQIP, Education Queensland and QMEA. Where relevant training programs have been initiated by other proponents, Arrow Energy will consider coordinating support with these where appropriate. Existing Arrow Energy training programs and initiatives that will fall within this policy include: • Go Women in Engineering and Science and Technology (Go WEST) which conducts networking and/or mentoring activities for female staff and students and enhances collaborative partnerships between regional industry, Queensland Office for Women, local government and USQ Student Services. • The Arrow Energy Aiming for a Brighter Future Program which aims to inspire, motivate and support women in rural and remote communities to return to education as mature age students to pursue distance learning pathways in science, technology, engineering and mathematics disciplines. • Education Queensland Industry Partnership (EQIP) – Gladstone which delivers courses designed to enable high school students to successfully transition into the local workforce and provide employers in the resource sector with new graduates who possess relevant skill sets. EQIP acts as a centralising body for government and industry to deliver a range of work-ready and pre-trade training courses to high school students. Arrow Energy entered into a three year partnership with EQIP in October 2012. • Queensland Minerals and Energy Academy (QMEA) which, in partnership with the Queensland Government, the Queensland Resource Council and major coal seam gas (CSG) proponents, designs and facilitates a range of programs to encourage students to pursue careers in Queensland's CSG industry. Arrow Energy entered into a three year partnership with QMEA in the Surat Basin in 2011 and the partnership was expanded in 2012 to include the Gladstone region. • Working with group training organisations and encouraging contractors to recruit and retain apprentices or trainees during operations. Common with Chapter 27, Economics.	Changed following SIMP update
C26.39A	Engage an Education and Training Coordinator to undertake regular reviews of labour requirements and current skills sets to ensure that training strategies meet these needs. It will be the responsibility of the coordinator to work within the Social Investment Team and various state agencies and other skills bodies to conduct assessments of existing community skills.	Changed following SIMP update
~~C26.40~~	~~Arrow Energy will work with group training organisations and encourage contractors to recruit and retain apprentices or trainees during operations.~~ ~~Arrow Energy will sponsor group training positions during the operations stage of the project.~~	Removed Replaced with Skills & training Coordinator position

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social (cont'd)		
C26.41A	~~The following~~ Continue existing Arrow Energy programs to provide entry level positions within the business and opportunities for women, young people and people with a disability. ~~will have positions reserved for suitably qualified students and school leavers from the Gladstone region~~ The programs currently operational are: • Graduate Program ~~(engineering, planning, social and environmental)~~. • ~~Scholarships.~~ • Vacation Employment. • Indigenous Scholarships. • Traineeships. ~~School Based Training~~ • Apprenticeships.	Changed following SIMP update
C26.42	The following Arrow Energy programs will be expanded to suitably qualified local employees: • Executive and Management Development Programs. • External Education Program. • Vocational/Trade Training. • Specialist Training.	No change
C26.43	Arrow Energy will work with Skills Queensland to deliver work readiness and skills development training programs for vulnerable local people such as the long term unemployed or under skilled, in order to assist them to gain employment. Common with Chapter 27, Economics.	No change
C26.44A	~~Develop a Local Industry Participation Plan (LIPP) in consultation with DEEDI and consistent with the Australian Government Australian Industry Participation Plan.~~ Finalise and implement the Australian Industry Participation Plan (AIPP), which provides detailed information about the strategies and approaches to be undertaken by Arrow Energy to: • Encourage contractors to source local goods and services where possible. • Encourage business to consider Indigenous procurement to maximise Indigenous employment opportunities. • Engage with key business bodies regarding appropriate opportunities for local businesses to supply goods and services to the project. The AIPP is being developed in consultation with the Federal government and the Coordinator General.	Changed following SIMP update
C26.45A	Provide ICN Queensland and DSDIP ~~QMI Solutions~~ with the information they require to assist local businesses improve their skills base and tailor their operations to meet the project's needs.	Changed following SIMP update
C26.46	Develop processes to ensure local business opportunities are considered in project procurement practises. These processes will allow ~~competitive~~ capable local business to be given fair and reasonable opportunities to ~~provide~~ compete for the supply of goods or services to the project.	Changed following SIMP update
C26.47	Encourage contractors to source local goods and services where possible.	No change
C26.48	Encourage businesses who provide goods and services to the project to consider Indigenous procurement in order to maximise Indigenous employment opportunities.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social (cont'd)		
C26.49	Arrow Energy will continue to engage with key business bodies regarding appropriate opportunities for local businesses to supply goods and services to the project.	No change
C26.50A	Facilitate the communication of the Local ~~Procurement~~ Content Policy to local service providers. This will involve ongoing communication of project procurement requirements, regular project updates during construction, overview of goods and services packages and supply chain. This will be communicated through initial procurement information sessions in Gladstone for potential suppliers and ongoing on the Arrow Energy website.	Changed following SIMP update
C26.51	Participate in existing programs that provide technical assistance and briefings to potential local and regional businesses about opportunities and requirements (e.g., Gladstone Region Leaders in Business – Speakers Series and the Gladstone Tender Readiness Program). Briefings will contain information on management systems and other requirements.	No change
C26.52	Collaborate with the existing job service that has been set up by other proponents for local businesses and use this to advertise for local positions. This will allow applicants to choose between industry and non-industry jobs.	No change
C26.53	Provide information to the TAFE system to inform the specialised small business solutions programs on what is required to provide goods and services to the LNG industry.	No change
C26.54	In accordance with project requirements an emergency management plan will be developed that will cover joint emergency response planning in collaboration with emergency service providers and local neighbours (e.g., in response to boating or traffic accidents).	No change
C26.55	Ensure monitoring results of workplace health and safety are communicated to the public and to the RCCC as part of Arrow Energy's annual reporting.	No change
C26.56	Details of the approved traffic management plans will be made available on the Arrow Energy website.	No change
C26.57	Continue to liaise with Maritime Safety QLD regarding their safety education campaign for boat users and anglers.	No change
C26.58	The project will collaborate with other proponents to coordinate communications and responses to safety concerns such as increased activity in Gladstone Harbour or other activities associated with the LNG industry.	No change
C26.59A	Arrow Energy will ~~consult~~ engage with landholders in close proximity to construction works in advance of works.	Changed following SIMP update
C26.60	Arrow Energy will publically release information on how environmental impacts are being offset by the project.	No change
C26.61A	~~Implement a community safety awareness program covering project activities in conjunction with industry and government partners.~~ Continue support for a Gladstone Gas Industry aero-medical retrieval service CareFlight. Arrow Energy, in collaboration with Origin Energy, Queensland Gas Company and Santos, has agreed to fund Gladstone Gas Industry aero-medical retrieval service in the region, commencing in mid-2013. The service is provided by CareFlight who are one of only two fully integrated aero-medical retrieval operations in the world. CareFlight employs its own full time emergency doctors, paramedics and flight crews to perform approximately 3000 retrievals a year in Queensland alone. The Aero-Medical Retrieval Service will assist in providing 100 free hours to Queensland Health for community based aeromedical recovery services.	Changed following SIMP update

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social (cont'd)		
C26.62	Complementing the induction and welcome kit provided at induction (in the community investment and wellbeing action plan), non-local employees will also be provided with relevant information on sexual health and fatigue management at induction.	No change
C26.63A	~~Develop an employee wellbeing program that monitors the mental and physical health of employees and contractors. Information on support services to be provided on induction with updates provided at regular intervals. This program should allow for monitoring employee wellbeing with the potential to undertake surveys to measure progress.~~ Implement policies and programs to maintain the wellbeing of personnel, including: • Provision of welfare and recreation facilities. • Provision of a counselling service (including drug and alcohol services*). • Implementation of a range of Arrow Energy policies including the OHS Policy, Drug, Alcohol and Contraband Policy, Duty to Stop Work Policy and Fit for Duty Policy. • Enforcement of smoking regulations on site. • Restrictions on working hours to reduce worker fatigue. • Provision of nutritionally balanced food to all personnel living within construction camps in line with guidance issued by Queensland Health. *At all times Arrow Energy's Drug, Alcohol and Contraband and Fit For Duty Policies will apply to the workforce whilst on Arrow Energy sites and whilst engaged in Arrow Energy work.	Changed following SIMP update
C26.64A	A project code of conduct, based on Arrow Energy's existing Code of Conduct and 'drug and alcohol' policy will cover workforce behaviour while on shift or on site. This code will be made available to the community on the website. ~~FIFO workers will be bound by these while in transit to and from the project as well as on shift.~~	Changed following SIMP update
C26.65	Arrow Energy will explore the opportunity to stagger rostering with other proponents to avoid staff from all LNG projects passing through Gladstone simultaneously.	No change
C26.66	Arrow Energy will provide an onsite health service for the workforce on Curtis Island and will liaise with emergency services and Queensland health in the planning of this facility.	No change
C26.67	Arrow Energy will support programs that contribute to the health and wellbeing of Indigenous employees.	No change
C26.68	Arrow Energy will communicate information about measures to reduce the impact on air quality through the Arrow Energy website.	No change
C26.69	Details of measures to address impacts on visual amenity will be communicated on the Arrow Energy website.	No change
C26.70	Details of measures to address noise impacts will be available on the Arrow Energy website.	No change
C26.71	Continue to participate in the Industry Leadership Group for CSG Resource Projects.	No change
C26.72	Participate in the existing RCCC for Gladstone.	No change
C26.73	Participate in CSG Industry Monitoring Group established by APLNG and QCLNG.	No change
C26.74A	As per the community investment and wellbeing plan ~~liaise with the relevant body~~ work with key stakeholders to ~~that can~~ coordinate investment efforts ~~across all proponents~~.	Changed following SIMP update

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social (cont'd)		
C26.75A	As per the housing and accommodation plan, continue to engage the Office of the Coordinator-General, other proponents and state agencies to manage housing and accommodation across the industry.	Changed following SIMP update
C26.76	As per the workforce and training plan, continue to work with existing training providers to coordinate assistance for relevant training programs.	Changed following SIMP update
C26.77A	As per the local content ~~and investment~~ plan, collaborate with the job service established by other proponents for local businesses.	Changed following SIMP update
26.78	Develop an operations accommodation strategy 24 months prior to the completion of construction. This strategy will include a commitment to company facilitated accommodation to meet the anticipated demand for up 225 beds during operation of trains 1 and 2. It is anticipated that all of these beds will be provided in company facilitated communal accommodation which may be met directly by the project, either through the development of purpose built accommodation or through agreements with third party providers. Examples of the company facilitated communal accommodation include: • Medium to high density developments. • Third party construction camps already operational in the Gladstone Region. • Pioneer workers camp on the mainland. • Rental properties where market conditions allow. The strategy will identify the preferred approach for facilitating 130 houses during operation of trains 1 and 2. This will be based on the state of the market to meet this project generated demand and required market interventions to minimise adverse impacts upon the community.	New commitment
26.79	Participate in OESR surveys to monitor housing and worker accommodation in Gladstone undertaken for the Gladstone Housing Report.	New commitment
26.8	Develop an early works workforce accommodation strategy covering the period from construction commencement until final commissioning of the Curtis Island construction camp. This strategy will identify options for accommodating all project workers who will need to be accommodated on the mainland prior to the establishment of the Curtis Island Camp. Options that will be considered for the accommodation of these workers will include: • Residential properties. • Third party provided construction camp facilities. • Other forms of accommodation facilitated by the project, depending on accommodation availability.	New commitment
26.81	Design the Curtis Island Camp to provide sufficient accommodation for up to 2,500 workers and ensure it has a design life of approximately five years to cover the entire construction phase of the project. Following the completion of Stage 1 of the project, consider decommissioning the camp or maintaining the camp for the Stage 2 construction phase, depending on expected timing. Decommission the construction camp following all project construction phases and stabilise, reinstate and rehabilitate the site to a self-sustaining landform.	New commitment
26.82	Consider options for the accommodation of the tunnel workforce, including residential properties, third party provided construction camp facilities, another form of accommodation facilitated by the project or TWAF, depending on accommodation availability.	New commitment

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social (cont'd)		
26.83	Ensure that workers associated with dredging are housed onboard the dredge vessel, or are considered as part of the early works and construction accommodation strategies.	New commitment
26.84	Design the TWAF to accommodate a sufficient capacity (up to 1,000 people) to act as an overflow camp for FIFO workers if the construction camp reaches capacity. The camp will also provide accommodation for workers associated with mainland based activities, e.g., pipeline and tunnel construction. This facility will have a shorter lifespan to the main construction camp on the island, during the peak construction period.	New commitment
26.85	Implement Arrow Energy's Aboriginal and Torres Strait Islander Action Plan which outlines Arrow Energy's commitment to Indigenous Australians, working with Traditional Owners and negotiating Indigenous Land Use Agreements (ILUA's), around the four goals of: • Ensuring Arrow Energy is culturally safe and culturally competent. • Recruiting and retaining Aboriginal and Torres Strait Islander staff. • Connecting Aboriginal and Torres Strait Islander people with business and employment opportunities. • Supporting Aboriginal and Torres Strait Islander education. This action plan can be found on the Arrow Energy website, www.arrowenergy.com.au	New commitment
26.86	Implement actions within Arrow Energy's Aboriginal and Torres Strait Islander Action Plan relating to the provision of educational opportunities for Indigenous students. Existing initiatives within the Action Plan include the following: • The Queensland Aboriginal and Torres Strait Islander Foundation (QATSIF) providing support to 69 Indigenous students entering year 11 or 12 in 2013 by providing bursaries that cover school-related expenses such as uniforms, IT levies, and VET expenses. • The Yalari Foundation, providing support to three Indigenous students commencing high school in 2013 to obtain a high quality education at a boarding school suited to their education and cultural needs. • Partnering with six of Queensland's leading universities (University of Southern Queensland, Central Queensland University, James Cook University, University of Queensland, Queensland University of Technology and Griffith University) to provide a total of 25 scholarships to Indigenous students across a range of fields. These scholarships include a package of financial support, mentoring and peer support. • Encouraging Indigenous Australians to apply for its graduate program, vacation employment, traineeships and apprenticeships.	New commitment
26.87	Continue to work with industry groups that are focused on increasing the engagement of women in the industry and developing pathways for women to work in non-traditional roles. Arrow Energy is already committed to: • Attending the Women in Mining Industry network. • Attending the quarterly meeting hosted by the University of Central Queensland.	New commitment
26.88	Continue to support the careers in gas website or other similar initiatives.	New commitment

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social (cont'd)		
26.89	Emergency management planning for the project will be undertaken in accordance with the requirements of the relevant codes and standards such as the National Standard for the Control of Major Hazard Facilities, the National Code of Practice and the Dangerous Goods Safety Management Act. All emergency management planning will be undertaken in consultation with relevant Queensland government authorities and emergency services organisations (including the Department of Community Safety and Emergency Management Queensland, Queensland Ambulance Service, Queensland Fire and Rescue Service and Emergency Management Queensland). A wider program of consultation will be undertaken to inform the development of emergency response plans. Representatives from the Curtis Island LNG projects, the LNG Incident Response Group Captains, Maritime Safety Queensland, Regional Harbour Master (Gladstone), Gladstone Ports Corporation, Queensland Police Service, Queensland Fire and Rescue Service and Queensland Ambulance Service will be consulted on the development of these plans.	New commitment
26.90	Continue to participate in a number of safety initiatives in Gladstone including: • Meet (as required) with Council, Industry, local businesses, police and hospital to help address alcohol fuelled anti-social behaviour. • Contribute to LNG funded extra police in the CBD during peak times. • Work with Volunteer Marine Rescue and Maritime Safety Queensland on boating safety awareness. This involves working with recreational boat users (at boat ramps) to ensure they are up to date with maritime rules. • Arrow Energy is aware that other groups are operating in the region on programs relating to road safety awareness, multicultural issues and domestic violence and are exploring opportunities to participate in these initiatives.	New commitment
26.91	Communicate project activities, milestones, workforce numbers and other relevant information to appropriate state departments and agencies as well as local government to help plan for demand on services.	New commitment
26.92	Develop a detailed medical emergency response plan which outlines key areas of responsibility for personnel on site and the medical emergency facilities and resources available. A range of medical emergency facilities and resources will be made available in accordance with the minimum standards set out in the Shell Exploration and Production Medical Emergency Response Guidelines (2005). These will be detailed in the medical emergency response plan and include: • An appropriately designed on-site medical facility. • Trained medical personnel. • First aid equipment. • An appropriate method of transport from facility to shore. • Remote medical support. A detailed medical emergency response study will be undertaken to assess transport times between the LNG plant and the mainland and determine whether required response times can be met. Arrow Energy will also contribute to a common Curtis Island local emergency response strategy being developed by the various stakeholders involved in the Curtis Island LNG projects.	New commitment
26.93	Issues of concern in respect to air quality, visual amenity and noise will be addressed in accordance with the complaints management system. The RCCC for Gladstone will also serve as a vehicle through which these issues can be raised, actioned and addressed.	New commitment

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Social (cont'd)		
26.94	As per the housing and accommodation action plan, take a position on the GAH reference group upon the commitment of funding at FID.	New commitment
Economics		
C26.02A	Identify ~~viable housing~~ options to meet the demand for dwellings ~~for housing the non-local construction workforce likely to reside outside of the construction camps~~, which minimises ~~sourcing housing in the private rental market for non permanent staff~~ the use of rental properties unless vacancy rates increase to 3% or higher. Possible options could include: • Providing rental guarantees or other incentives to private investors to encourage the construction of new housing stock which can be used by project staff ~~and remain available for the wider community following the end of the construction phase~~. • Encouraging all non-local employees to live in company facilitated housing ~~TWAF~~ unless they have families or other circumstances that make this impractical. • Providing direct and indirect investment in the housing market. • Providing accommodation advice services for workers and their families. Common with Chapter 26, Social.	Changed following SIMP update
C26.04	Collect data on where workers are residing and whether they have a family with them. Determine the level of local employment and the likely number of non local workers and their families seeking accommodation in the study area. Common with Chapter 26, Social.	No change
C26.06A	Develop a construction workforce accommodation strategy within 12 months of awarding the EPC contract. The strategy will identify the preferred approach for facilitating ~~of~~ up to 90 houses during the construction phase ~~and increasing up to 130 houses for long term housing for the non local operational workforce (at Stage1) through the project accommodation strategy~~. This will be based on ~~e strategy should assess~~ the state of the market to meet this project generated demand and ~~make the~~ required market interventions to minimise adverse impacts upon the community. Common with Chapter 26, Social.	Changed following SIMP update
C26.07	Through the construction workforce accommodation strategy, include a commitment to company facilitated accommodation to meet the anticipated demand for up to 380 beds ~~in company-facilitated accommodation for~~ during construction of trains 1 and 2. ~~management (Arrow Energy and contractor) single status workers and 225 beds for operational workers at Stage 1 through the project accommodation strategy~~. It is anticipated that all of these beds will be provided in company facilitated communal accommodation which may be met directly by the project, either through the development of purpose built accommodation or through agreements with third party providers. Examples of the company facilitated communal accommodation include: • Medium to high density developments. • Third party construction camps already operational in the Gladstone Region. • Pioneer workers camp on the mainland. • Rental properties where market conditions allow. Common with Chapter 26, Social.	Changed following SIMP update
C26.08A	Identify opportunities through the construction workforce accommodation strategy to bring forward facilitation of housing intended for the operations workforce that can be used for the construction workforce. Common with Chapter 26, Social.	Changed following SIMP update

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Economics (cont'd)		
C26.09A	Provide information on the Arrow Energy website on actions taken to meet project housing needs ~~and key data on workforce numbers and approximate numbers housed within the community~~. Common with Chapter 26, Social.	Changed following SIMP update
C26.10	Collaborate with other proponents in the region and identify opportunities to share temporary accommodation where possible for the construction and maintenance workforces. Common with Chapter 26, Social.	No change
C26.11	Inform the tourist industry and other peak business bodies of anticipated time frames for peak temporary accommodation demand. Common with Chapter 26, Social.	No change
C26.12A	Work with the ~~Urban Land Development Authority~~ Queensland Government, Gladstone Regional Council and affordable housing providers to identify opportunities in the study area to bring additional affordable housing to market for existing residents. Common with Chapter 26, Social.	Changed following SIMP update
~~C26.13~~	~~Work with the state government, the Gladstone Regional Council and the Indigenous community to identify opportunities to provide assistance to not-for-profit housing providers to support the Indigenous community.~~ ~~Common with Chapter 27, Economics.~~	Removed All affordable housing (includes, indigenous, low income etc)funding is now directed through Arrow commitment to $6.5M to the Gladstone Affordable Housing Company
C26.14A	Provide $6.5 million towards the development of affordable housing options in Gladstone ~~or in kind support of the same value to other non government providers of social housing~~. Arrow Energy has met with and agreed to contribute to GAH following FID. This includes a position on the reference group. Common with Chapter 26, Social.	Changed following SIMP update
C26.15	Provide information on the Arrow Energy website on actions taken to support affordable housing initiatives to offset housing impacts. Common with Chapter 26, Social.	No change
C26.16A	Provide $1 million ~~in financial assistance to the GRC~~ for emergency rental assistance to GRC for distribution. Arrow Energy has commenced discussions with GRC and will continue to work with them to develop the criteria and distribution processes for access to ERA funding. This is intended to ensure that it reflects local community needs and compliments the current agreements within the ERA program with the other proponents. Common with Chapter 26, Social.	Changed following SIMP update

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Economics (cont'd)		
C26.12A	Work with the ~~Urban Land Development Authority~~ Queensland Government, Gladstone Regional Council and affordable housing providers to identify opportunities in the study area to bring additional affordable housing to market for existing residents. Common with Chapter 26, Social.	Changed following SIMP update
~~C26.13~~	~~Work with the state government, the Gladstone Regional Council and the Indigenous community to identify opportunities to provide assistance to not-for-profit housing providers to support the Indigenous community.~~ ~~Common with Chapter 27, Economics.~~	Removed All affordable housing (includes, indigenous, low income etc)funding is now directed through Arrow commitment to $6.5M to the Gladstone Affordable Housing Company
C26.34A	Identify the range of skill sets required for the labour force and provide this information to relevant agencies. Undertake a gap analysis against existing skills availability and identify in consultation with relevant agencies,~~. Where gaps exist in consultation with the Department of Education and Training identify the method or~~ appropriate strategies ~~through which these skills will be filled~~ to fill these gaps, e.g., FIFO/DIDO or training. Common with Chapter 26, Social.	Changed
C26.35	Determine how to maximise local employment opportunities and develop a recruitment plan to identify what positions will be targeted without negatively impacting on the availability of local services. Common with Chapter 26, Social.	No change
C26.37	Where appropriate, identify opportunities where training provided by the project or other training providers will be able to meet skills gaps in the community for the project to assist in maximising local employment opportunities. Common with Chapter 26, Social.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Economics (cont'd)		
C26.38A	Develop a policy identifying training pathways for students and school leavers to assist students in gaining employment upon graduation. This will be done in consultation with SAIN, EQIP, Education Queensland and QMEA. Where relevant training programs have been initiated by other proponents, Arrow Energy will consider coordinating support with these where appropriate. Existing Arrow Energy training programs and initiatives that will fall within this policy include: • Go Women in Engineering and Science and Technology (Go WEST) which conducts networking and/or mentoring activities for female staff and students and enhances collaborative partnerships between regional industry, Queensland Office for Women, local government and USQ Student Services. • The Arrow Energy Aiming for a Brighter Future Program which aims to inspire, motivate and support women in rural and remote communities to return to education as mature age students to pursue distance learning pathways in science, technology, engineering and mathematics disciplines. • Education Queensland Industry Partnership (EQIP) – Gladstone which delivers courses designed to enable high school students to successfully transition into the local workforce and provide employers in the resource sector with new graduates who possess relevant skill sets. EQIP acts as a centralising body for government and industry to deliver a range of work-ready and pre-trade training courses to high school students. Arrow Energy entered into a three year partnership with EQIP in October 2012. • Queensland Minerals and Energy Academy (QMEA) which, in partnership with the Queensland Government, the Queensland Resource Council and major coal seam gas (CSG) proponents, designs and facilitates a range of programs to encourage students to pursue careers in Queensland's CSG industry. Arrow Energy entered into a three year partnership with QMEA in the Surat Basin in 2011 and the partnership was expanded in 2012 to include the Gladstone region. • Working with group training organisations and encouraging contractors to recruit and retain apprentices or trainees during operations. Common with Chapter 26, Social.	Changed
C26.43	Arrow Energy will work with Skills Queensland to deliver work readiness and skills development training programs for vulnerable local people such as the long term unemployed or under skilled, in order to assist them to gain employment. Common with Chapter 26, Social.	No change
C27.01	Engage and collaborate with Construction Skills Queensland to identify potential strategies for increasing the capacity of local job seekers to develop appropriate skills for construction.	No change
C27.02	Inform and advise stakeholders of project goods and services requirements, and of opportunities and requirements for securing service provision and supply contracts. This will include implementation of a Local Content Strategy to aid suitable businesses in the tender process.	No change
C27.03	Inform council and economic development organisations of goods and services required by the Arrow LNG Plant that are not currently available or are under-serviced from within Gladstone to attract investment and develop the supply chain.	No change
C27.04	Investigate options to develop relevant networks to connect local business and enable collaboration in meeting service supply requirements of the LNG industry.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Economics (cont'd)		
C27.05	Develop a detailed worker accommodation plan to accommodate workers during the period between final investment decision and commissioning of the construction camps. This will include continuing to liaise with the other proponents, housing providers and state and local government to determine the cumulative housing demand and cooperative strategies which address this demand.	No change
C27.06	Develop construction worker camps as soon as practical following final investment decision.	No change
C27.07	Make the local residential development market aware of the scale and timing of project accommodation requirements and construction and operations activities.	No change
Traffic and Transport		
C28.01	Develop a traffic management plan for the project in consultation with DTMR and Gladstone Regional Council. Methods to ensure public safety at project sites, avoid obstruction to other road users, address seasonal weather influences on transport arrangements and manage any issues including driver fatigue will be detailed in the plan. The traffic management plan will address the movement of oversized loads. Common with Chapter 29, Hazard and Risk.	No change
C28.02	Undertake a pavement intersection assessment and bridge capacity assessment when preferred transport routes are identified.	No change
C28.03	Implement a formal local workforce car-pooling or busing strategy to minimise the number of local project personnel using the roads during peak hour and to maximise usage of accommodation on Curtis Island. A busing strategy may comprise a number of small buses travelling from areas central to where personnel live. A staff matching or car pooling strategy will also be considered.	No change
C28.04	Use DTMR/Gladstone Regional Council preferred freight routes where practical.	No change
C28.05	Separate pedestrian access from vehicle access in access to construction and operational work sites (where practical).	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Traffic and Transport (cont'd)		
C28.06	Consult DTMR and Gladstone Regional Council on the scope and timing of already identified upgrades and project specific upgrades (including potential contributions) that may be required when final routes for freight and workforce bus routes are confirmed. This process will take place during the preparation of the detailed traffic management plan for the project and may include, subject to final TWAF/mainland launch site selection and completion of the detailed logistics strategy: • Timing of Gladstone–Mount Larcom Road upgrades and whether upgrades need to be brought forward. • Design of a new intersection accessing the proposed tunnel entry site from Gladstone–Mount Larcom Road. • Intersection A: Hanson Road/Blain Drive/Alf O'Rourke Drive (all transport scenarios). DTMR have identified works to this intersection; however, the project may necessitate additional works. Timing of DTMR works may need to be brought forward. • Intersection B: Gladstone–Mount Larcom Road/Landing Road (transport scenario 3). The existing intersection layout is not expected to accommodate project related traffic at 2024 and 2026. DTMR has identified works at this intersection (four lanes required between 2020 and 2030). Timing of DTMR works may need to be brought forward to early in the 2020 to 2030 period to accommodate project traffic. • Intersection C: Gladstone–Mount Larcom/Red Rover Road (transport scenario 3). DTMR have identified works to this intersection; however, the project may necessitate additional works. Timing of works may need to be brought forward due to the project.	No change
C28.07	Consult with providers of air services to Gladstone on the timing of construction and operations weekly shifts to aid commercial decision making by service providers on the frequency of services and capacity of aircraft.	No change
C28.08	Provide a share of funding toward the new instrument landing system at Gladstone Airport upon project FID.	No change
C28.09A	Develop a ~~shipping activity~~ marine activity management plan (incorporating a Port of Gladstone shipping activity strategy and management plan) in consultation with Gladstone Regional Council, Gladstone Ports Corporation, Maritime Safety Queensland and all contractors operating within the Gladstone Port. Common with Chapter 29, Hazard and Risk.	Updated correct plan name
C28.10	Operators of project vessels, Arrow Energy staff and contractors, to comply with the Gladstone port procedures manual, which details LNG operating parameters.	No change
C28.11A	Ensure that operators of project vessels, Arrow Energy staff and contractors comply with the ~~LNG~~ marine ~~operations maritime safety~~ activity management plan if/when this plan is agreed between Maritime Safety Queensland, Gladstone Ports Corporation and the other LNG proponents. Common with Chapter 29, Hazard and Risk.	Updated correct plan name

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Traffic and Transport (cont'd)		
C28.12	Ensure that operators of project vessels, Arrow Energy staff and contractors comply with Arrow Energy rules for marine vessels and LNG shipping operations in addition to following the Oil Companies International Marine Forum (OCIMF) and Society of International Gas Tanker and Terminal Operators guidelines (SIGTTO). Rules will address crew competencies, a three-stage approvals process for each LNG vessel (i.e., vetting of ships and operators prior to engagement to transport LNG), scheduling and other requirements and quality assurance. For the construction period, additional rules will address safety and competency requirements of smaller marine vessels and vessel operators involved with the project.	No change
C28.13	Provide support for tug and LNG carrier pilot training organised by all proponents, the Gladstone Ports Corporation, Maritime Safety Queensland and SMIT tugs.	No change
Hazard and Risk		
C29.01	Undertake qualitative and quantitative hazard and risk assessments (including process safety studies) in accordance with applicable regulations and standards as a part of the ongoing design process and throughout the life of the project.	No change
C29.02	Consult with relevant Queensland government agencies including emergency services organisations and maritime safety authorities on the management of hazards and risks in accordance with relevant legislative requirements, codes and standards.	No change
C28.01	Develop a traffic management plan for the project in consultation with DTMR and Gladstone Regional Council. Methods to ensure public safety at project sites, avoid obstruction to other road users, address seasonal weather influences on transport arrangements and manage any issues including driver fatigue will be detailed in the plan. The traffic management plan will address the movement of oversized loads. Common with Chapter 28, Traffic and Transport.	No change
C28.09A	Develop a ~~shipping activity~~ marine activity management plan (incorporating a Port of Gladstone shipping activity strategy and management plan) in consultation with Gladstone Regional Council, Gladstone Ports Corporation, Maritime Safety Queensland and all contractors operating within the Gladstone Port. Common with Chapter 28, Traffic and Transport.	Updated correct plan name
C28.11A	Ensure that operators of project vessels, Arrow Energy staff and contractors comply with the ~~LNG~~ marine ~~operations maritime safety~~ management plan if/when this plan is agreed between Maritime Safety Queensland, Gladstone Ports Corporation and the other LNG proponents. Common with Chapter 28, Traffic and Transport.	Updated correct plan name
Land Use and Planning		
C30.01	Design the feed gas pipeline to minimise the project land requirement and extent of potential disruption to existing and alternate land uses.	No change
C30.02	Site, design, construct and operate project components having regard to legislation, policy, and statutory instruments and guidelines. Compliance with design codes and standards of the project components during construction, operation and decommissioning will be assessed and determined through a range of post EIS applications for approvals, permits and licences.	No change
C30.03	Establish exclusion zones around the LNG plant and maritime areas to ensure the safety of LNG personnel, the public, shipping and maritime assets and do not unnecessarily prevent public access to areas of coastline.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Land Use and Planning (cont'd)		
C30.04	Prior to construction, consult landowners within the project area on the potential direct impacts to their assets, land use activities, and any temporary disruption to supporting utility services and infrastructure. This consultation will inform the final property-specific design and mitigation measures.	No change
C30.05	Liaise with the Regional Harbour Master of Gladstone on the potential for telecommunications devices to affect aids to navigation infrastructure or services.	No change
Waste Management		
C31.01	Implement employee training and other programs that encourage employees to reduce waste.	No change
C31.02	Ensure that contractors comply with Arrow's Health, Safety and Environmental Management System (HSEMS) and implement a waste management plan in accordance with the procedure.	No change
C31.03	Substitute raw materials or inputs with an equivalent, less hazardous or toxic material, where practical.	No change
C31.04	Institute good housekeeping and operating practices, including substituting materials for an equivalent and more environmentally friendly option and inventory control to reduce the amount of waste resulting from materials that are out of date, off specification, contaminated, damaged, or excess to project needs.	No change
C31.05	Implement stringent waste segregation processes to prevent the co-mingling of water and waste streams.	No change
C31.06	Clear the smallest construction footprint practical, thereby reducing the generation of green waste, acid sulfate soils, overburden, topsoil and greenhouse gases.	No change
C31.07	Evaluate waste production processes and identify potentially recyclable materials.	No change
C31.08	Identify and recycle products that can be reintroduced into the process or activity at the site.	No change
C31.09	Establish recycling objectives and formal tracking of waste generation and recycling rates.	No change
C31.10	Install dedicated skip bins for designated wastes around the construction site.	No change
C31.11	Establish a dedicated waste sorting or laydown area early in the project. Store inert material such as concrete in this area, and periodically crush and screen when sufficient quantity has been gathered. Use crushed material as rock base and fill, or dispose to landfill.	No change
C31.12	Mulch leaves, branches and timber on site and use this for site stabilization or erosion control and landscaping.	No change
C31.13	Collect and recycle ferrous and non-ferrous metals, paper and cardboard, glass, spent sulfuric acid and batteries, and waste oils. Dispose of solid wastes that cannot be recycled or re-used at a landfill or licensed facility.	No change
C31.14	Require suppliers to consider measures and options to reduce packaging and increase recycling. Include this requirement in the tendering and contracting process.	No change
C31.15	Store wastes in a manner that prevents the co-mingling of, or contact between incompatible wastes and that allows for inspection between containers to monitor leaks or spills.	No change
C31.16	Provide adequate ventilation where volatile wastes are stored.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Waste Management (cont'd)		
C31.17	Provide hardstanding surfaces at oil storage areas, fuel filling points and the mechanical repair shop.	No change
C14.04	Store fuels, chemicals and hazardous wastes in appropriately sized bunded storage facilities (in leak-proof sealed containers). Common with Chapter 14, Groundwater.	No change
C31.18	Install drainage and sump systems in appropriately sized bunded compounds to assist with the removal of any waste materials released into the containment system.	No change
C31.19	Locate stockpiles of waste materials (such as concrete, tyres and waste polyethylene) in dedicated laydown areas with appropriate drainage.	No change
C31.20	Label all storage containers for clear identification of the contents, as per the appropriate regulations.	No change
C13.12	Develop appropriate spill prevention and response plans to cover project activities and the types and quantities of fuel, oil and chemicals held at each site. Common with Chapter 13, Surface Water Hydrology and Water Quality and Chapter 14, Groundwater and Chapter 16, Marine Water Quality and Sediment.	No change
C13.13	Train all relevant personnel in spill response and recovery procedures. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change
C31.21	Cover waste storage bins for domestic and food wastes.	No change
C31.22	Use an appropriately licensed contractor to collect (on a regular basis) waste generated from accommodation quarters.	No change
C31.23	Strip topsoil from areas of planned soil disturbance to provide material for rehabilitation, where practical.	No change
C31.24	Stockpile excess overburden (that is not suitable for hardstand use or site fill) on site, where practical. Overburden will be managed to ensure runoff is controlled and erosion is minimised.	No change
C31.25	Handle waste chemicals in accordance with the appropriate material safety data sheet (MSDS).	No change
C31.26	Provide sufficient space to allow for the segregation and storage of wastes.	No change
C31.27	Treat the following wastes in the effluent treatment plant, with the exception of sewage from the pioneer camp and the TWAF: • Contaminated or potentially contaminated stormwater from process areas at the LNG plant. • Dry weather flow such as water from wash-down bays and liquids wastes from the laboratory. • Effluent from LNG operations such as wastewater and slops oil from the boil-off gas compressor area and the flare knock-out water. • Gas turbine wash water. • Oily water from the slops oil tank. • Sewage and greywater from the accommodation areas and the LNG plant.	No change
C14.08	Collect sewage and greywater generated from the pioneer camp in portable disposal units or other mobile collection facilities. Use a licensed waste contractor to service the sewage facilities and dispose of effluent at a licensed waste management facility. Dispose of sewage from the mainland TWAF through a connection to the local sewerage network or ensure that it is collected in portable disposal units or other mobile collection facilities. Common with Chapter 14, Groundwater.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Waste Management (cont'd)		
C31.28	Design the effluent treatment plant package units to meet the final effluent discharge requirement.	No change
C31.29	Design the effluent treatment plant based on the first 30 minutes of peak rainfall flow estimation from process areas.	No change
C31.30	Monitor treated effluent and reroute any discharge that is off-specification back to the effluent treatment plant for retreatment.	No change
C31.31	Make alternative storage and disposal options available during times of system failure and in conditions preventing discharge to land such as rain events. Distribute the effluent treatment plant discharge to tanks for re-use on site. The tanks can be by-passed and the treated effluent discharged to the marine outfall if necessary.	No change
C31.32	Maintain records of inspection, maintenance, sampling, and cleaning of the effluent treatment plant.	No change
C31.33	Do not dispose of any waste in landfills or by incineration on Curtis Island.	No change
C31.34	Irrigate to land or re-use on site treated wastewater from the effluent treatment plant.	No change
C31.35	Develop a recycled water management plan for the project. Undertake a site assessment and desktop study to select appropriate sites, vegetation and irrigation methods to support the development of the plan.	No change
C31.36	Direct brine from the reverse osmosis plant into Port Curtis via a diffuser outfall pipe located a sufficient distance offshore to ensure free flowing current conditions to adequately disperse the brine.	No change
C31.37	Collect the clean catchment runoff through peripheral drains at the LNG plant site discharging to Port Curtis.	No change
C16.01	~~Design~~ If an RO plant is adopted, the design of the brine discharge outfall from the LNG Plant will include a three-port diffuser at the end of the pipeline located close to the water surface (or the ports angled towards the surface) to maximise dilution of the negatively buoyant discharge stream. Common with Chapter 16, Marine Water Quality and Sediment.	No change
C31.38	Install signs on site clearly indicating drains that discharge directly to the marine environment.	No change
C31.39	Transport excess concrete to the mainland for disposal or re-use if there is no use for the material on site.	No change
C13.10	Manage all surface water generated from the LNG plant site by a stormwater treatment system to ensure discharged water complies with regulatory requirements. Common with Chapter 13, Surface Water Hydrology and Water Quality.	No change
C31.40	Engage an appropriately licensed waste contractor (on an as-required basis) to remove from site those specific liquid wastes that cannot be processed on site.	No change
C31.41	Engage an appropriately licensed waste contractor to transport off site all solid waste that cannot be reprocessed or recycled on site, for disposal at a recycler, reprocessor or other waste management facility such as a landfill. The majority of the solid waste will be disposed of at the Benaraby Regional Landfill. Agreement for the disposal of solid waste at this landfill will be obtained from Gladstone Regional Council.	No change
C31.42	Ensure all vehicles entering and leaving Curtis Island are clean, and loads securely stowed, and covered where practical.	No change
C31.43	Record all regulated wastes removed from the site in a waste register.	No change

Table A7.1 Arrow LNG Plant: Commitments (cont'd)

Number	Commitment	Change
Waste Management (cont'd)		
C31.44	Dispose of all regulated wastes at licensed waste management sites within Queensland, unless a specialised treatment is required that is not available in Queensland at the time treatment and disposal is required.	No change
C31.45	Transport all regulated wastes by a waste transporter with the appropriate DERM authority to collect and dispose of the waste.	No change
C31.46	Ensure that vehicles transporting regulated waste are licensed to carry the particular type of waste and that operators complete appropriate waste tracking documentation.	No change
C31.47	Develop an emergency response plan for the project and include spill contingency or emergency measures. Make material safety data sheets available at the LNG plant and other project sites to aid in the identification of appropriate spill clean-up and disposal methods.	No change
C31.48	Ensure that specific spill prevention procedures cover the unloading and loading activities at the LNG jetty and MOF in accordance with applicable international standards and guidelines. Spill prevention procedures will specifically address advanced communications and planning with the receiving terminal.	No change
C31.49	Manage combustible wastes and ignition sources appropriately to eliminate fire hazards.	No change
C31.50	Divert firewater generated in process areas or other areas draining to the controlled discharge facility to the effluent treatment plant. Additional firewater will be directly discharged through the marine outfall.	No change