

ASSESSMENT REPORT

GLOUCESTER GAS STAGE 1 PROJECT & CONCEPT PLAN

**Tomago Receiving Station & Minor Pipeline Realignment
Modification (MP 08_0154 Mod 1)**

1. BACKGROUND

1.1 Gloucester Gas Project

AGL Upstream Infrastructure Investments Pty Ltd (AGL) has approval to construct and operate the Gloucester Gas Stage 1 Project and implement the associated Gloucester Gas Concept Plan (together, MP 08_0154), in the Gloucester Valley and Hunter Region of NSW. The concept plan approval covers the same key elements as the project approval, while also including staged gas well-field development within a broader concept area. These two approvals are herein collectively referred to as the Gloucester Gas Project, or the project.

The Gloucester Gas Project was approved by the Planning Assessment Commission (PAC) under delegation from the then Minister for Planning on 22 February 2011 under the since repealed Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The approved project involves the extraction and processing of coal seam gas in the Gloucester Valley and its transport by pipeline and delivery to the existing gas supply network in the Hunter region. The project is illustrated in **Figure 1** below and involves:

- coal seam gas extraction from the Gloucester Basin in the Gloucester and Great Lakes Local Government Areas (LGAs);
- processing and compression of the gas at a processing facility, to be located at either of two locations near Stratford in the Gloucester LGA;
- transport of the compressed gas from the processing facility via an underground pipeline, across the Gloucester, Great Lakes, Dungog, Maitland, Port Stephens and Newcastle LGAs; and
- delivery of the gas to the existing Sydney-Newcastle gas pipeline via a new gas delivery station at Hexham (the Hexham Delivery Station) in the Newcastle LGA.

To construct the 95 to 100 kilometre (km) long underground high pressure gas transmission pipeline, the project includes approval of a pipeline corridor 100 metres (m) in width (the approved pipeline corridor). While the width of the actual construction corridor for the pipeline would be limited to 30 m (but 15 to 20 m in sensitive areas), the larger approved pipeline corridor would allow greater flexibility in choosing the final location of the pipeline route. AGL also has approval for the Main Line Valve (MLV) which would be located along the pipeline route and would act as an isolation point in the event of an emergency.

The project is also subject to a separate Commonwealth approval granted on 11 February 2013.

AGL has yet to commence works under the Gloucester Gas Project and has since identified that the approved pipeline corridor could be realigned in order to reduce environmental impacts, improve efficiency and avoid recently-constructed utilities. The realignment would also enable the pipeline to connect directly with AGL's approved Newcastle Gas Storage Facility at Tomago, rather than the Hexham Delivery Station as originally proposed.

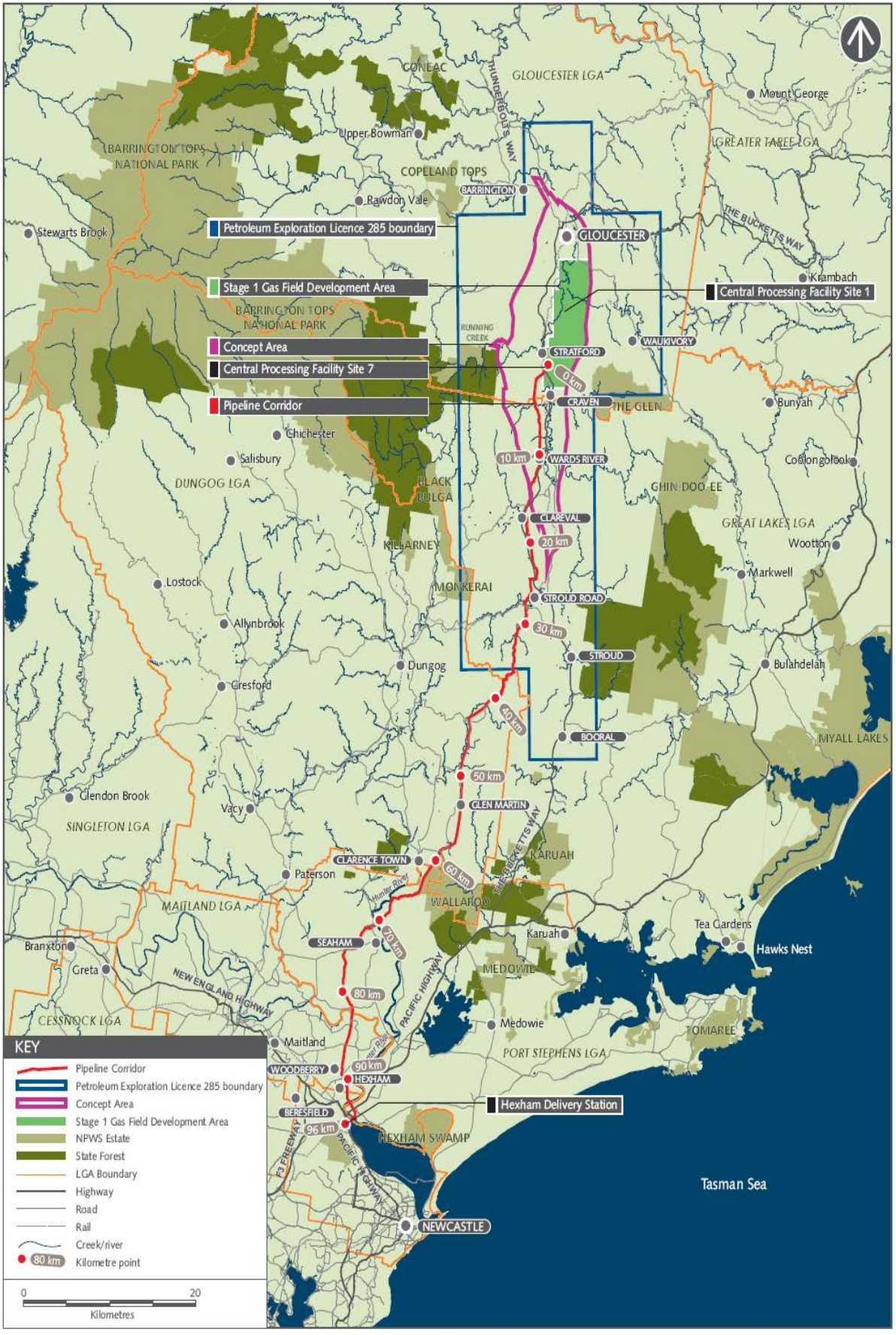


Figure 1: Original project components

1.2 Newcastle Gas Storage Project

In May 2012, the PAC, under delegation from the then Minister for Planning, approved AGL's Newcastle Gas Storage Project (MP 10_0133) located in Tomago and Hexham. The Newcastle Gas Storage Project includes the construction and operation of:

- the Newcastle Gas Storage Facility (NGSF) at Tomago;
- a receiving station at Hexham; and
- a 5.5 km long pipeline connecting the NGSF with the receiving station.

AGL has yet to finish construction works under the Newcastle Gas Storage Project. Once constructed and operational, the Newcastle Gas Storage Project would enable AGL to draw natural gas from the NSW gas pipeline network at Hexham via the receiving station and deliver it to the NGSF.

Facilities at the NGSF would allow AGL to liquefy the gas (liquefied natural gas, or LNG) for storage during periods of low gas demand. Conversely, LNG could be converted back into its gaseous form and injected back into the network during periods of high demand.

2. PROPOSED MODIFICATION

On 20 November 2013, AGL requested that the Minister for Planning modify the project approval and concept plan under section 75W of the EP&A Act. The proposed modification seeks approval to:

- construct and operate the Tomago Receiving Station (TRS) located adjacent to the NGFS at Tomago; and
- realign sections of the approved pipeline corridor.

The modification application includes the construction and operation of an odourant facility as a component of the TRS. AGL has yet to determine the final location of the odourant facility and is seeking approval for the construction of the facility at two potential locations, either within the TRS compound or within the adjacent NGSF compound. The indicative location of the approved MLV is proposed to be within a cleared and recently grazed area in the Seaham section (schematic of the MLV and its indicative location are shown in **Figure 3**).

Minor realignments to the gas transmission pipeline are proposed in four sections of the approved pipeline corridor, which are described below and shown collectively in **Figure 2**:

- *Seaham section* - an approximately 0.65 km long section at East Seaham which is proposed to be straightened and realigned up to 100 m further north, so as to be mostly in a cleared area within and adjacent to a TransGrid transmission line easement (see **Figure 3**);
- *Brandy Hill section* - an approximately 5 km long section near Brandy Hill which is proposed to be straightened and realigned generally up to 33 m further west (see **Figure 4**);
- *Millers Forest section* - an approximately 2.5 km long section at Millers Forest which is proposed to be realigned around 50 m further east in order to avoid the recently-constructed TransGrid electricity transmission line (see **Figure 5**); and
- *Tomago section* - an approximately 6.5 km long section at the southern end of the pipeline corridor which is proposed to be realigned to connect to the NGSF via the TRS at Tomago.

The Tomago section realignment was first described and illustrated in the application to modify the project approval. However, AGL subsequently submitted an alternative alignment option for the Tomago section in its Response to Submissions (RTS) (shown in purple in **Figure 6**). AGL has confirmed that it is seeking approval for this alternative Tomago alignment option only (rather than both).

The Department notes that the modification application relates only to the gas transmission pipeline and gas delivery station components of the approved project and that no other changes to the existing approval are proposed.

3. STATUTORY CONTEXT

3.1 Section 75W

The proposed modification would not change the purpose or general nature of the development for which the existing project approval and concept plan were granted. The proposed modification

involves the minor realignment of already approved pipelines and the construction and operation of the TRS.

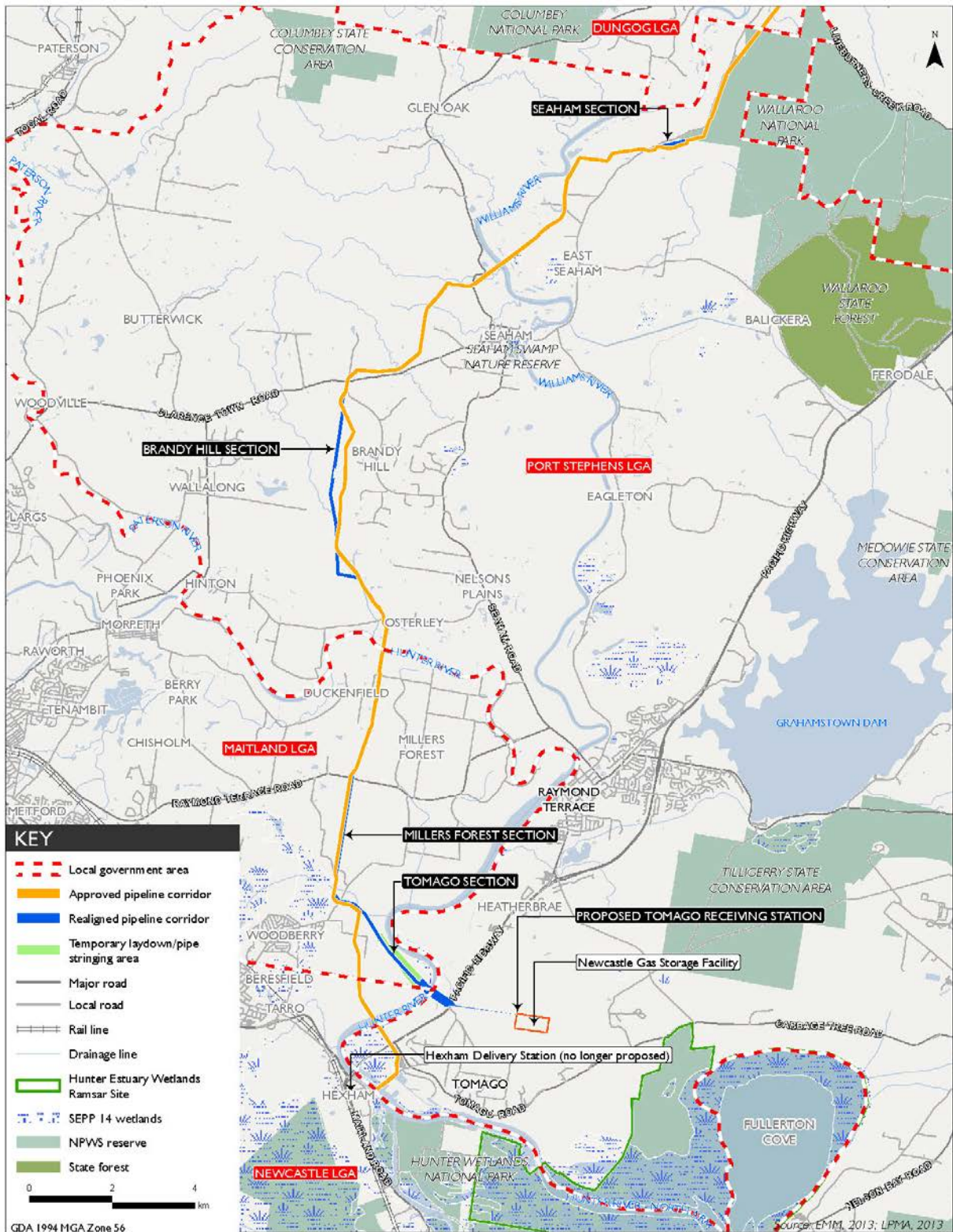
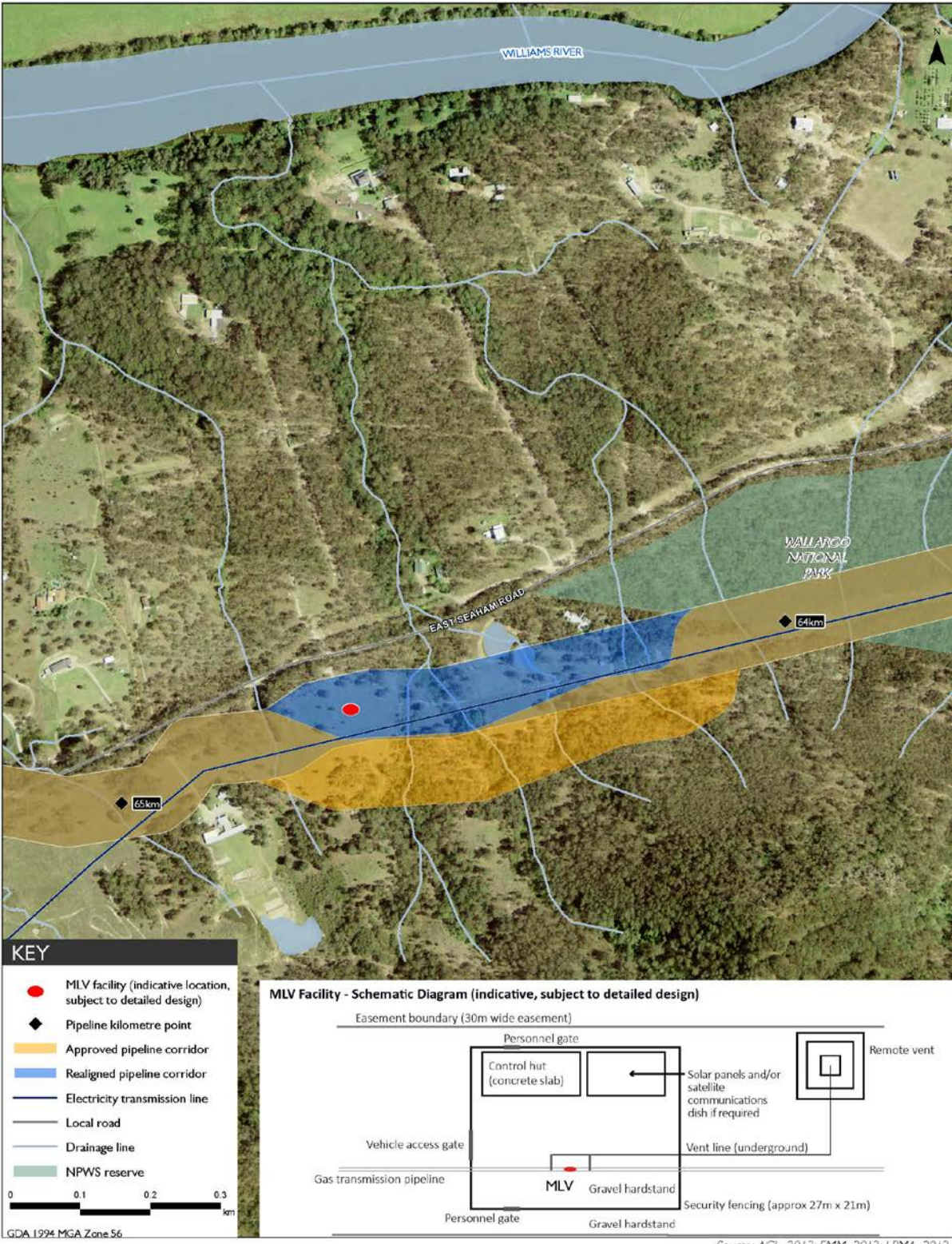
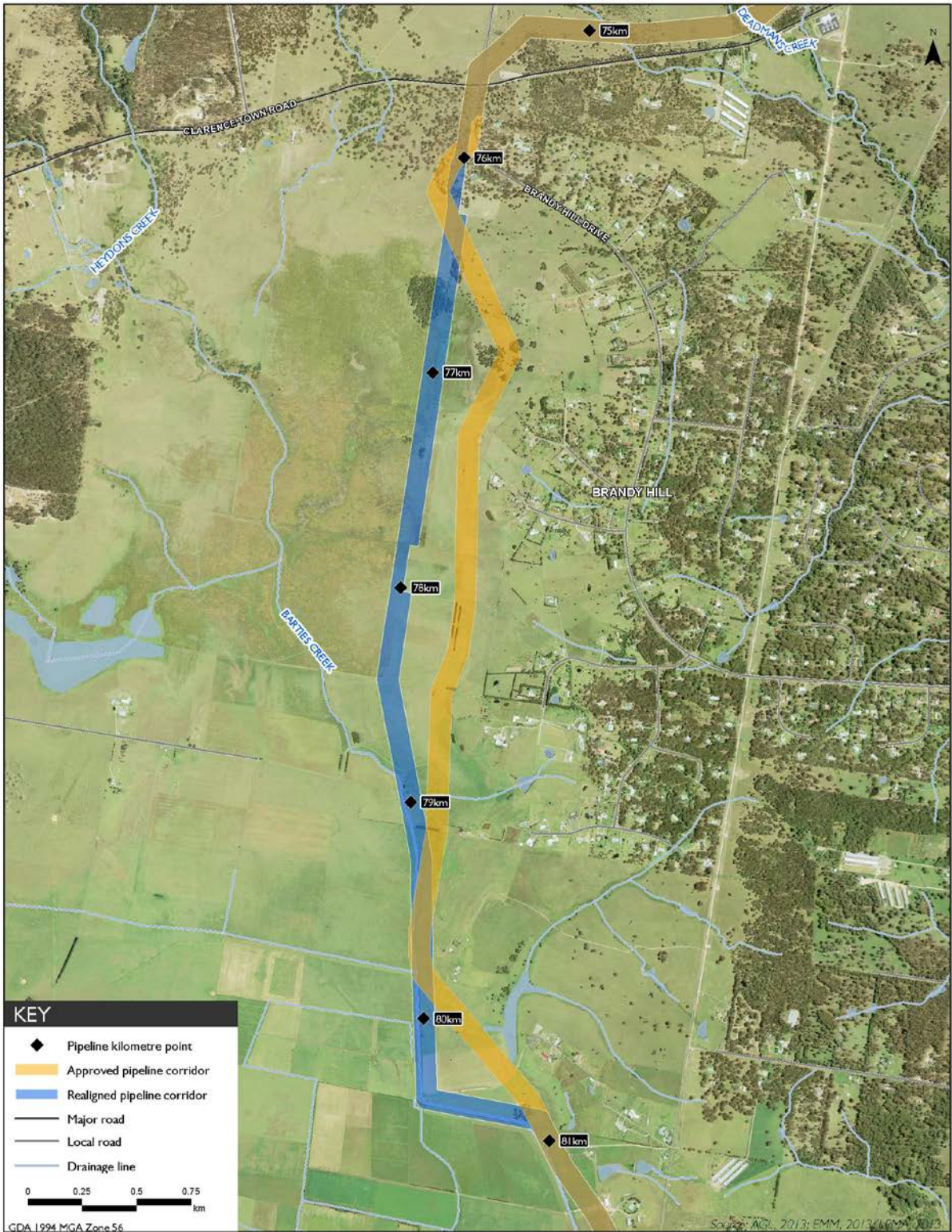


Figure 2: Proposed four pipeline re-alignments



Seaham section
 Minor pipeline corridor realignments EA
 Figure 1.3

Figure 3: Proposed Seaham section pipeline re-alignment



Brandy Hill section

Minor pipeline corridor realignments EA

Figure I.4

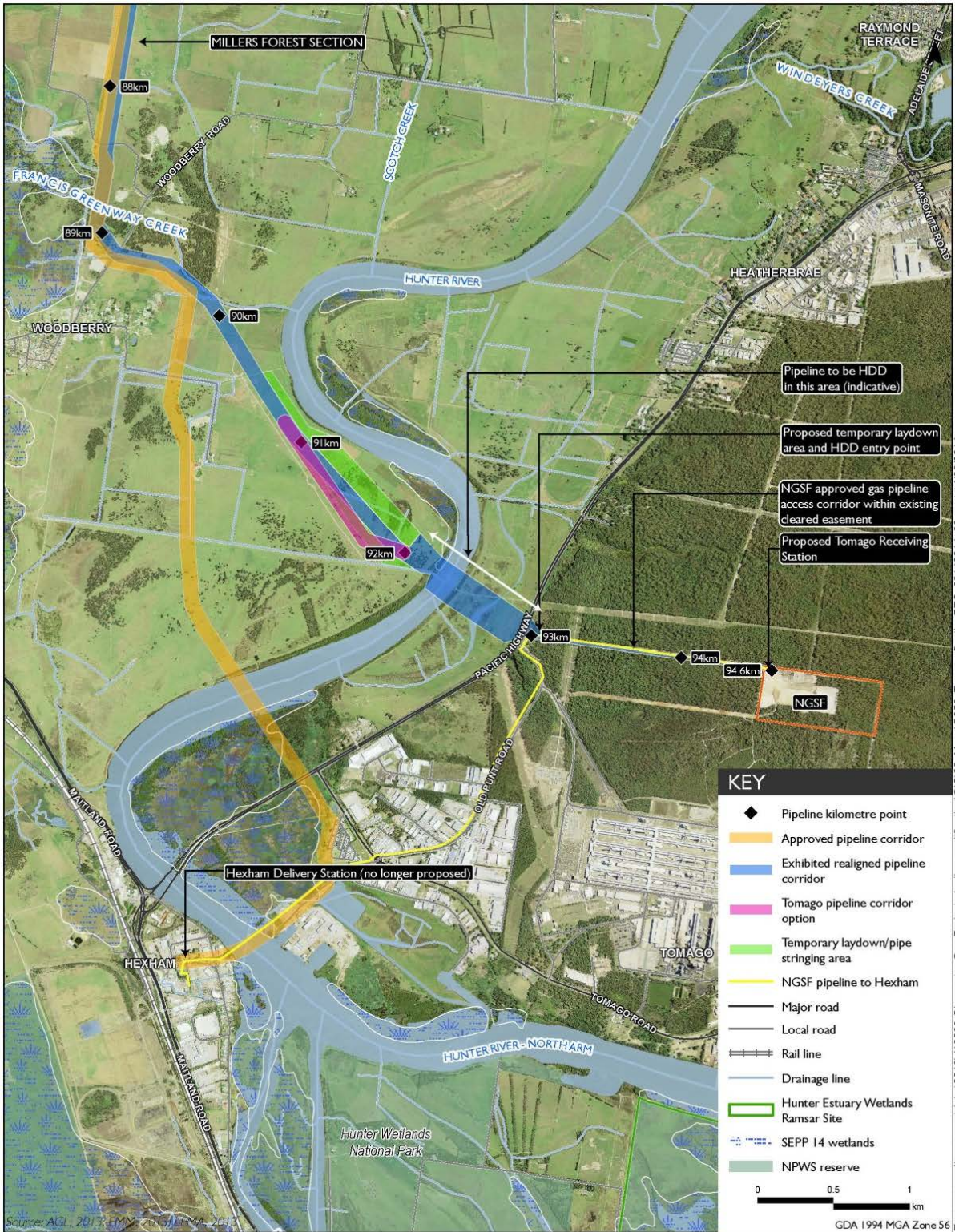
Figure 4: Proposed Brandy Hill section pipeline re-alignment





Millers Forest section
 Minor pipeline corridor realignments EA
 Figure 1.5

Figure 5: Proposed Millers Forest section pipeline re-alignment



Tomago section
 Minor pipeline corridor realignments
 Response to submissions
 Figure 1

Figure 6: Proposed Tomago section pipeline re-alignment

Although Part 3A of the EP&A Act was repealed on 11 October 2011, the Gloucester Gas Project remains a “transitional Part 3A project” under Schedule 6A of the EP&A Act. The proposed modification must therefore be considered under the former section 75W of the EP&A Act, in accordance with the relevant savings and transitional provisions.

The Department is satisfied that the proposed change to the conditions of approval can be properly characterised as a modification to the existing project approval, and can be assessed and approved under section 75W of the EP&A Act.

Consequently, the Department is satisfied that the modification may be determined under Section 75W.

3.2 Approval Authority

Under section 75W of the EP&A Act, the Minister for Planning is the approval authority for this modification application. However, under the Minister’s delegation of 14 September 2011, the PAC must determine the modification application, as the proponent has disclosed reportable political donations.

3.3 Environmental Planning Instruments

The Department has considered the environmental planning instruments which might be considered to be relevant to the application. Based on this consideration, the Department is satisfied that these instruments do not limit the ability to approve the proposed modification or otherwise substantially govern the carrying out of the project.

4. CONSULTATION

After accepting the Environmental Assessment (EA, see **Appendix A**) for the proposed modification, the Department:

- made the EA publicly available from 2 December 2013 until 18 December 2013:
 - on the Department’s website and at the Department’s Information Centre;
 - at Gloucester Shire Council’s office;
 - at Port Stephens Council’s office;
 - at Maitland City Council’s office;
 - at Newcastle City Council’s office; and
 - at the Nature Conservation Council’s office.
- notified relevant State government authorities and Gloucester Shire, Port Stephens, Maitland City and Newcastle City Councils and
- advertised the exhibition in the Gloucester Advocate and the Newcastle Herald.

No public or special interest group submissions were received during the exhibition period.

The Department received feedback from the Environment Protection Authority (EPA), Port Stephens Council, Maitland City Council, Office of Environment and Heritage (OEH), Department of Primary Industries, the Office of Agricultural Sustainability and Food Security (a part of the Department of Primary Industries), the Office of Coal Seam Gas (OCSG) and the Hunter Water Corporation (HWC). No significant issues were raised by any agency and minor matters were satisfactorily addressed in AGL’s Response to Submissions (RTS) provided to the Department in February 2014 and in additional information provided to the Department in June and August 2014 (see **Appendix B**).

A full copy of all submissions received is provided in **Appendix C**. A copy of the RTS and additional information is provided in **Appendix D**.

5. ASSESSMENT

In assessing the merits of the proposal, the Department has considered the:

- EA for the original proposal;
- existing conditions of approval;
- EA for the proposed modification;
- AGL’s RTS and subsequent additional information;
- relevant environmental planning instruments, policies and guidelines; and
- the requirements of the EP&A Act, including the objects of the Act.

In regard to the proposed modification, the Department considers the key issues to be associated with hazards and risk, and biodiversity. The assessment of these issues has been undertaken below.

5.1 Hazards and Risk

An Addendum Preliminary Hazard Analysis (addendum PHA) was undertaken by Planager Pty Ltd to consider the risks associated with the proposed modification, including risks associated with the:

- pipeline corridor realignments;
- indicative location of the MLV in the Seaham section;
- Tomago Receiving Station (TRS); and
- odourant facility (as part of the TRS).

Planager noted that the proposed modifications were minor and concluded that the level of risk associated with the application would be generally consistent with the original project. The pipeline realignment would not introduce additional hazard and risk. Planager considered that risks associated with the indicative location of the MLV and either location for the odourant facility were minor or negligible.

The Department considers that the most significant potential hazards and risks relate to the location of the TRS within the NGSF site and the final 1.6 km length of the pipeline connecting to the TRS.

The TRS is proposed be located within the NGSF site (as shown in **Figure 7**), away from residential, commercial or sensitive land-uses. The Final Hazards Analysis undertaken for the Newcastle Gas Storage Project has already accounted for the presence of the TRS. However, a number of management plans and strategies required under the Newcastle Gas Storage Project do not take account of the proposed TRS and would need to be updated if the modification is approved.

The Tomago section realignment towards the NGSF would result in approximately 1.6 km of the pipeline being located within the same pipeline corridor as AGL's Tomago-to-Hexham high pressure gas transmission pipeline. The co-location of pipelines in this manner is not uncommon and Planager has noted that AGL would need to ensure that any associated risks are minimised in the final design and construction of the pipeline.

The Department considers that the existing conditions of approval for the Gloucester Gas Project, which require AGL to undertake a series of further hazard-related studies and analysis prior to the commencement of relevant construction works, are comprehensive and would adequately manage the potential hazards or risks of the project.

However, to ensure that these studies are consistent with the modification application, the Department recommends that the existing project approval is amended to require AGL to consider the findings of the addendum PHA during the preparation of the Final Hazards Analysis for the Gloucester Gas Project. The Department also recommends that AGL updates the hazard and risk studies required under the Newcastle Gas Storage Project.

5.2 Biodiversity

AGL has designed the pipeline corridor realignment to avoid (where possible) remnant native vegetation, paddock trees and riparian areas. The vast majority of the realigned pipeline corridor traverses cleared land, and more so than the original pipeline corridor did.

An ecological assessment of the proposed modification was prepared by Alison Hunt and Associates, with input from ecologists from EMM. The Department and the OEH are satisfied with the surveying effort undertaken to support the assessment, which concluded that the pipeline corridor realignment would result in an overall reduced impact to native vegetation and/or threatened species habitat than was already approved, as a result of avoiding:

- a coastal wetland area identified in *State Environmental Planning Policy No 14 - Coastal Wetlands* (see **Figure 6**);
- a second water crossing under the Hunter River (see **Figure 6**);
- 1.8 hectares (ha) of Ironbark Spotted Gum Woodland native vegetation; and
- 0.14 ha of Forest Red Gum Endangered Ecological Community (EEC).



Tomago Receiving Station - indicative layout
 Minor pipeline corridor realignments EA
 Figure 2.8

Figure 7: Proposed Tomago Receiving Station (TRS) within the Newcastle Gas Facility Compound



However, the realignment would traverse three small degraded remnant / regrowth patches (0.25 ha) of Swamp Oak Floodplain Forest EEC within the Brandy Hill and Tomago sections.

Table 1 highlights the overall reduction of vegetation clearing along the pipeline corridor realignment.

Table 1: Comparison of vegetation clearing for the approved and realigned sections

Vegetation community	Endangered ecological community	Approved pipeline alignment clearing ¹ (ha)	Seaham, Brandy Hill and Tomago sections clearing (ha)	Outcome (ha)
Ironbark - Spotted Gum Woodland	N/A	1.80	0	-1.80
Forest Red Gum	Hunter Lowland Redgum Forest	0.23	0.09	-0.14
Swamp Oak Forest	Swamp Oak Floodplain Forest	0	0.25	+0.25
Total		2.03	0.34	-1.69

Notes: 1. The approved pipeline alignment clearing only relates to the area required to be cleared in the 30 m ROW at the respective sections. The ROW has been reduced to 15 m in sensitive areas to minimise disturbance.

The Tomago section realignment would avoid significant areas of Freshwater Wetland and Coastal Saltmarsh EEC associated with the Hunter Estuary. Horizontal directional drilling techniques would continue to be employed during construction of the pipeline in order to avoid direct impacts on significant natural features. The realignment would result in a single crossing of the Hunter River rather than the two crossings proposed under the approved pipeline corridor, thereby further limiting any potential impacts to the Hunter River.

The current approved pipeline corridor traverses an Ironbark - Spotted Gum Woodland community which is contiguous with remnant vegetation in Wallaroo National Park and AGL's proposed biodiversity offset areas to the south. The proposed realignment would avoid this community altogether, traversing predominantly cleared land used for livestock grazing, resulting in a reduction in vegetation clearing of 1.8 ha. While there would be some small areas of Ironbark - Spotted Gum Woodland within the realigned 100 m pipeline corridor, AGL is proposing to avoid any clearance within the pipeline construction corridor.

The realignment of the pipeline corridor in the Brandy Hill section would result in the avoidance of 0.14 ha of degraded Hunter Lowland Redgum Forest EEC.

While the pipeline corridor realignment would result in clearing 0.25 ha of degraded Swamp Oak Floodplain Forest EEC, the Department does not consider this significant against the vegetation that would be preserved as a result of the realignment.

The Department was previously satisfied that the residual biodiversity impacts of the original project could be appropriately managed, mitigated or offset and that there were no unmanageable biodiversity constraints to the development of the project. The Department considers that the modification application would further reduce these impacts and remains satisfied that residual impacts can be adequately managed or offset. OEH concurs with this position. Therefore, the Department does not recommend any additional conditions concerning biodiversity.

5.3 Other Impacts

Other impacts resulting from the modification are not predicted to be significant, and the Department is satisfied that they can be controlled, mitigated or managed through existing conditions of approval. These other impacts are addressed in **Table 2** below.

Table 2: Other impacts

Issue	Assessment	Consideration
Noise	<ul style="list-style-type: none"> A noise assessment undertaken by EMM concluded that the modification would not substantially alter the noise levels of the project. 	<ul style="list-style-type: none"> While the modification application would increase noise levels for some receptors along the pipeline corridor, these receptors would have already been

	<ul style="list-style-type: none"> The Department considers the key noise issue to be construction noise associated with the pipeline corridor realignment and cumulative noise levels at the proposed TRS in Newcastle. A number of receptors would be closer to construction works along the changed pipeline corridor than originally proposed. However, other receptors would be located further away (including the Tomago Village Caravan Park). The assessment of the original project concluded that short-term construction noise associated with the pipeline corridor was unavoidable and recommended conditions to restrict construction hours and require AGL to implement all reasonable and feasible measures to minimise noise generation, in accordance with the <i>Interim Construction Noise Guideline</i> (ICNG). While noise modelling shows that operational noise levels of the TRS would meet the operational noise criteria, operations during periods of high flow at the TRS in conjunction with existing and proposed industrial development (including the NGSF) are predicted to result in a minor 1 dBA exceedance of the cumulative noise criteria at a single residence (R38), situated along School Drive, south of the NGSF. This exceedance would generally be indiscernible to the human ear. 	<p>considered “noise affected” under the ICNG under the approved project. Only the Wallaroo National Park and one privately-owned receptor are considered to be “highly affected”.</p> <ul style="list-style-type: none"> The existing conditions already require AGL to implement noise management measures during construction periods, in accordance with the ICNG. The Department notes that the predicted cumulative noise exceedance at R38 would only occur at night during periods of high gas flow and worst-case meteorological conditions. Additional information provided by EMM has estimated that high gas flow periods are only expected to occur 5 times a year. As such, the Department does not consider cumulative noise levels to be unacceptable. Overall, the Department considers that noise impacts would be reduced under the proposed modification, since noise impacts associated with the Hexham Receiving Station are avoided. The Department considers the existing conditions of approval, which require AGL to prepare and implement separate Environmental Management Plans for construction and operations that include ongoing management and monitoring or noise impacts, are adequate to manage project-related noise impacts.
<i>Acid Sulphate Soils</i>	<ul style="list-style-type: none"> The likelihood of encountering acid sulphate soils during earth disturbance works under the proposal would be generally the same as for the approved project. The EA states that the realignment is predicted to reduce the likelihood of encountering acid sulphate soils within the Tomago pipeline corridor section. 	<ul style="list-style-type: none"> Given that the proposal would lead to reduced impacts on acid sulphate soils, the Department is satisfied that the existing conditions of approval are adequate. As such, the Department has no additional recommendations.
<i>Other</i>	<ul style="list-style-type: none"> Air quality, agriculture, groundwater, surface water, flooding, socio-economic, European and non-Aboriginal heritage, vibration, visual, greenhouse gas, traffic and access, bushfire and cumulative impacts were all assessed in the EA. Agencies were satisfied that the existing commitments made by AGL and existing conditions approval would adequately manage these impacts. 	<ul style="list-style-type: none"> The Department is satisfied that the impacts of the modification would be generally consistent with the approved project and could be adequately managed under existing conditions of approval. As such, the Department has no additional recommendations.

6. RECOMMENDED CONDITIONS

The Department has prepared recommended conditions of approval for the modification, which require AGL to:

- carry out the project generally in accordance with the proposed modification as set out in the supporting EA and RTS; and
- ensure that all hazard and risk related studies for the Newcastle Gas Storage Project are updated to consider the presence of the Tomago Receiving Station.

To ensure that the requirements of the project approval are appropriately carried out, the Department has recommended that a number of project approval conditions are modified to either require the Secretary's approval or be carried out to the Secretary's satisfaction.

The Department has also updated the project approval conditions to reflect contemporary environmental management, monitoring and auditing requirements and changes to Government agency names and relevant administrative changes.

A consolidated set of proposed conditions is provided at **Appendix E** and **F**. AGL has reviewed and accepted these conditions.

7. CONCLUSION

The proposed modification would result in the realignment of four sections of the pipeline corridor from the Gloucester Gas Project to Newcastle and provide for the connection of the pipeline to the approved Newcastle Gas Storage Facility via the new Tomago Receiving Station, rather than the Hexham Delivery Station as originally proposed.

The proposal is generally consistent with the scope and intent of the original project. AGL has highlighted that the primary purpose of the proposal is to improve the pipeline alignment to further minimise environmental impacts, avoid recently-constructed utilities, achieve economic and efficiency benefits, and to connect directly with the approved Newcastle Gas Storage Facility at Tomago, rather than via the yet-to-be-constructed Hexham Delivery Station.

The Department supports AGL's reasoning. Based on its assessment, the Department is satisfied that the proposed modification would not result in significant environmental impacts and that any potential impacts would be adequately managed under the existing project approval, subject to minor additional recommendations. The proposed modification is minor in nature, in the context of the approved project, and would lead to an improvement in environmental outcomes.

8. RECOMMENDATION

It is **RECOMMENDED** that the PAC, as delegate of the Minister:

- **consider** the findings and recommendations of this report;
- **determine** that the proposed modification is within the scope of section 75W of the EP&A Act;
- **approve** the proposed modification under section 75W, subject to conditions;
- **sign** the attached Notice of Modification for the Stage 1 Project (**Appendix G**);
- **sign** the attached Notice of Modification for the Concept Plan (**Appendix H**).

Howard Reed

Howard Reed
Manager
Mining Projects

15.9.14

Chris Wilson
Executive Director
Development Assessment Systems and Approvals

19.9.14

DK Kitto 17/9/14

David Kitto
Director
Mining Projects

APPENDIX A – ENVIRONMENTAL ASSESSMENT

APPENDIX B – ADDITIONAL INFORMATION

APPENDIX C – COPY OF SUBMISSIONS

APPENDIX D – RESPONSE TO SUBMISSIONS

See the Department's website link at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6305

APPENDIX E – STAGE 1: CONSOLIDATED CONSENT

APPENDIX F – CONCEPT PLAN: CONSOLIDATED CONSENT

APPENDIX G – STAGE 1: NOTICE OF MODIFICATION

APPENDIX H – CONCEPT PLAN: NOTICE OF MODIFICATION