

Independent Pricing and Regulatory Tribunal  
New South Wales

# Assessment of Flow Systems Operations' network operator's licence application for the Glossodia scheme

**Prepared in accordance with the  
*Water Industry Competition Act 2006 (NSW)***

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# 1 Executive Summary

We recommend that the Minister for Water, Property and Housing<sup>1</sup> (the Minister) grants Flow Systems Operations Pty Ltd (Flow Systems Operations) a network operator's licence<sup>2</sup> to construct, operate and maintain non-potable water<sup>3</sup> and sewerage infrastructure for the Jacaranda Ponds development, which is located at Glossodia in the Hawkesbury City Council local government area (*Glossodia scheme*).

In assessing Flow Systems Operations' licence application, we considered the licensing criteria set out in sections 10(3) and (4) of the *Water Industry Competition Act (2006)* (WIC Act), and had regard to the licensing principles in section 7(1) of the WIC Act.

We have also recommended licence conditions for the Minister to consider when granting the licence.

A draft network operator licence is included with this report at **Appendix A**.

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<sup>1</sup> The Minister for Water, Property and Housing administers the *Water Industry Competition Act 2006* (NSW).

<sup>2</sup> Licence number 19\_043

<sup>3</sup> In the *Water Industry Competition Act 2006* (NSW), non-potable water means water that is not drinking water. Flow Systems Operations Pty Ltd seeks this licence to supply recycled water.

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## 2 Recommendations

We recommend that the Minister for Water, Property, and Housing:

- 1 Grants a network operator's licence (licence number 19\_043) to Flow Systems Operations, for the Glossodia scheme subject to the conditions as set out in the attached draft licence.

The Minister must consider, but is not bound to accept, any advice or recommendation in this report in determining the licence application. The Minister may, if circumstances so require, seek further advice from us in relation to the licence application.<sup>4</sup>

The Minister is required to provide us with a Notice of Decision and of the reasons for the decision when deciding whether or not to grant the licence.<sup>5</sup> We would then publish the notice on our website, in accordance with the requirements of the WIC Act.<sup>6</sup>

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<sup>4</sup> WIC Act, section 10(2).

<sup>5</sup> WIC Act, section 10(5).

<sup>6</sup> WIC Act, section 10(6).



## 3 Flow Systems Operations' application

Flow Systems Operations submitted the initial application for a network operator's licence for the Glossodia scheme on 13 May 2016. The application did not progress for extended periods while Flow Systems Operations sought the information necessary to complete the application. Additional information, including a revised application and amended Reviews of Environmental Factors (REFs) were provided to support the consultation process and detailed assessment of the application.

Progress of the application was further delayed when ownership of Flow Systems and Flow Systems Operations transferred to Brookfield FS Holdings Pty Ltd on 15 April 2019, after a period of administration that commenced on 20 December 2018. Flow Systems Operations provided additional information on 1 August 2019 that allowed us to complete our assessment.

We consulted on the application during 2016. We did not consult on the application again because:

- ▼ We considered the updated information provided by Flow Systems Operations, including the amended REFs, to be substantially the same as the application package that was consulted on, with the exception of the organisational (corporate ownership) restructure after the sale.
- ▼ Flow Systems and Flow Systems Operations were sold to their ultimate parent corporate group, the Brookfield Infrastructure group of companies, with no change in the technical, organisational and financial 'capacity' of the applicant.

On 13 May 2016, Flow Systems also applied to vary its retail supplier's licence to allow the provision of retail services for the Glossodia scheme.<sup>7</sup> On 25 August 2017 we recommended that the Minister grant a variation to Flow Systems retail supplier's licence (licence number 13\_001R) to include the Glossodia scheme.<sup>8</sup>

### 3.1 The applicant and its parent organisation

Flow Systems Operations is a wholly owned subsidiary of Flow Systems. Flow Systems Operations has no employees and relies on the full support of Flow Systems to provide technical, financial and organisational capacity. Flow Systems' subsidiaries currently have nine network operator's licences as shown in Appendix C Table C.1. Flow Systems is named on the proposed network operator's licence as an Authorised Person to construct, operate and maintain non-potable water and sewerage infrastructure.

<sup>7</sup> Flow Systems Pty Ltd has a retail supplier's licence (13\_001R) covering all of its licensed schemes.

<sup>8</sup> As of September 2019, the Minister is yet to make a decision on Flow Systems' application to vary its retail supplier's license (13\_001R) to include the Glossodia scheme.

BPIH Utilities Holdings Pty Ltd is the Australian parent of Flow Systems. Flow Systems' ultimate holding company is BIP Bermuda Holdings I (incorporated in Bermuda), which is a subsidiary of Brookfield Infrastructure Partners L.P.

A diagram illustrating Flow Systems ownership structure and related licence holders is provided at Appendix C Figure C.1.

### 3.2 The Glossodia scheme

Flow Systems and its subsidiary Flow Systems Operations have been engaged by Celestino Pty Ltd (a development subsidiary of EJ Cooper and Son Pty Ltd) to establish a local water utility to provide non-potable water and sewerage services to the Jacaranda Ponds development at Glossodia.

Currently the 185 hectare site is used as a poultry farm, and the majority of the site is cleared and undeveloped. New public open space is included in the planning consent. No land has been zoned for commercial/business development, other than the proposed recycled water treatment plant.

To provide non-potable water and sewerage services to the Glossodia scheme, Flow Systems Operations would construct, operate and maintain the necessary infrastructure and Flow Systems would retail the non-potable water and sewerage services to the development (if the Minister grants Flow Systems application to vary its retail supplier's licence). Customers for the Glossodia scheme would all be small retail customers.

We understand Sydney Water Corporation (Sydney Water) would supply drinking water to the development.

The scheme would be serviced in two phases, as summarised in Table 3.1.

**Table 3.1 Services provided in the proposed phases at the Glossodia scheme**

| Phase | Estimated Commencement | Drinking water   | Non-potable water   | Sewerage   |
|-------|------------------------|--|---|--|
| 1     | November 2019          | Sydney Water would supply drinking water for the development | On completion of phase 1, reticulation network supplied with drinking water             | Construction of interim balance tanks and recycled water treatment plant. Discharge to either Hawkesbury City Council or Sydney Water's sewerage system via tankering. |
| 2     | February 2022          | Sydney Water would supply drinking water for the development | Reticulation network supplied with non-potable water, pending Minister's/IPART approval | Operation of recycled water treatment plant completed and production of non-potable water to begin, pending Ministers/IPART approval.                                  |

**Note:** The licence application refers to the recycled water treatment plant as a "Local Water Centre".

Flow Systems Operations proposes to commence construction of the recycled water treatment plant in December 2020, with estimated completion in February 2022.<sup>9</sup> The water recycling treatment plant would consist of a membrane bioreactor, reverse osmosis and disinfection units. The estimated hydraulic capacity is up to 300 kL/day and would treat 198 kL/day on average at full development.

The proposed end uses of non-potable water include toilet flushing, washing machines (cold water), car washing, ornamental water features, residential irrigation, public open space irrigation, irrigation of newly developed land release stages during construction, and dust suppression for construction activities within the development.

While Flow Systems Operations would design, construct and operate the recycled water treatment plant, the developer, Celestino Pty Ltd, would construct the reticulation works as part of the residential development under the guidance of Flow Systems Operations. Once constructed, Flow Systems Operations would operate and maintain the treatment plant, and the non-potable water and sewerage reticulation networks.

### 3.3 Environmental assessment

In determining whether to grant Flow Systems Operations the WIC Act licence for the Glossodia scheme, the Minister is also a determining authority for the water industry infrastructure development under Part 5 of the EP&A Act<sup>10</sup>.

We have undertaken an environmental assessment of the scheme, having had regard to the environmental considerations required by the WIC Act,<sup>11</sup> and the requirements of sections 5.5 and 5.6 of the EP&A Act. We engaged an expert consultant to undertake a review (see Appendix D) of the *REF for Proposed Sewage and Recycled Water Reticulation System* (see Appendix E), and the *REF for Proposed Local Water Centre* (see Appendix F) prepared by RPS Australia East Pty Ltd. The consultant's assessment report concluded that the two REFs have each identified that the environmental impacts are within acceptable parameters, provided the mitigation measures outlined in each REF are effectively implemented.<sup>12</sup>

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<sup>9</sup> Revised high level program submitted by Flow Systems, on behalf of Flow Systems Operations, to IPART 20 May 2019.

<sup>10</sup> *State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)* provides that much of the infrastructure which requires a licence under the WIC Act is development which may be carried out **without development consent**. As a result, such development requires environmental assessment under Part 5 of the *Environmental Planning and Assessment Act 1979*.

<sup>11</sup> WIC Act, s 7(1)(a), s 10(4)(e) and clause 7 of the *Water Industry Competition Regulation 2008* (WIC Regulation).

<sup>12</sup> SLR Consulting, *Review of the revised REFs for Water Industry Infrastructure at Glossodia*, Letter, 13 December 2018.

## 4 Consultation and submissions

On 20 July 2016, we provided the licence application to, and invited submissions from, the following Ministers and their relevant departments:

- ▼ Minister administering the *Public Health Act 2010* (NSW) (Minister for Health)
- ▼ Minister administering Chapter 2 of the *Water Management Act 2000* (NSW) (at the time of consultation, the Minister for Lands and Water)
- ▼ Minister administering the *Protection of the Environment Operations Act 1997* (NSW) (Minister for the Environment)
- ▼ Minister administering the *Environmental Planning and Assessment Act 1979* (NSW) (Minister for Planning).<sup>13</sup>

At the same time, we also provided a copy of the licence application to the Minister administering the WIC Act, who at that time was the Minister for Lands and Water the Hon. Niall Blair, MLC.<sup>14</sup> We also called for submissions on the application from the public.<sup>15</sup>

We notified Sydney Water of the licence application<sup>16</sup> because Flow Systems Operations is proposing to connect to Sydney Water's water industry infrastructure (as defined in the WIC Act) as part of the activities for which it seeks a licence.<sup>17</sup>

We also invited Hawkesbury City Council to make a submission<sup>18</sup> as the consent authority under Part 4 of the EP&A Act for the overall development.<sup>19</sup> The planning proposal to rezone the land has been approved, but no development consent for the residential development and the associated construction activities has been given to date.<sup>20</sup>

We also called for submissions on the application from the public.<sup>21</sup> We advertised in the Daily Telegraph and the Sydney Morning Herald on 20 July 2016 for public submissions. The closing date for submissions was 17 August 2016.

We considered all the submissions as part of our assessment of Flow Systems Operations' application against the licensing principles and the criteria.

Where necessary we sought further information from Flow Systems Operations to satisfy ourselves that any issues raised in the submissions could be addressed and where necessary,

<sup>13</sup> As required by the WIC Act, section 9(1)(b) and *Water Industry Competition (General) Regulation 2008*, clause 17(1).

<sup>14</sup> As required by the WIC Act, section 9(1)(a).

<sup>15</sup> As required by the WIC Act, section 9(1)(c).

<sup>16</sup> Letter to Sydney Water, IPART, 20 July 2016.


<sup>17</sup> As required by the WIC Act, section 9(1)(b)(iii) and WIC Regulation, clause 17(2).

<sup>18</sup> Letter to Hawkesbury City Council, IPART, 20 July 2016.

<sup>19</sup> Consent for the residential development is required under Part 4 of the EP&A Act. However, water industry infrastructure requires an assessment and determination under Part 5 of the EP&A Act as per clause 106 of ISEPP.

<sup>20</sup> Hawkesbury City Council Planning Portal checked on 21 August 2019.

<sup>21</sup> As required by the WIC Act, section 9(1)(c).



we have proposed that the Minister impose conditions of the licence to address any outstanding risk (should a licence be granted).

A summary of all the submissions we received is presented in Appendix G.

As noted in section 3, we did not consult on the application again because we considered the updated information provided by Flow Systems Operations, including the amended REFs, to be substantially the same as the application package that we consulted on.

In addition to inviting submissions, we sought expert advice from:

- ▼ SLR Consulting to inform our environmental assessment (see section 6.2)
- ▼ Insurance and Care NSW (icare self-insurance, formerly NSW Self Insurance Corporation SICorp) to inform our assessment of appropriate insurance arrangements (see section 5.5).

## 5 Assessment of application

The WIC Act sets out licensing principles which the Minister must have regard to in considering whether or not to grant a licence.<sup>22</sup> The WIC Act also prohibits a licence from being granted to a disqualified corporation or related entity<sup>23</sup> and requires the Minister to be satisfied that the applicant meets specific criteria set out in the WIC Act or the regulations in order to grant a licence.<sup>24</sup> The Minister can consider other matters that the Minister considers relevant, having regard to the public interest.<sup>25</sup>

This section of our report contains our assessment of Flow Systems Operations' licence application and our recommendations.

### 5.1 We have had regard to licensing principles

In considering whether or not to recommend that the Minister grant the licence, and as to what conditions the licence should be subject (if granted), we had regard to the licensing principles set out in the WIC Act. We have outlined our consideration in the sections below.

For some of the principles prescribed in the WIC Act, detailed assessment has been undertaken elsewhere in this report, where we consider whether an applicant has met specific licensing criteria. Where this is the case, we refer to the relevant sections of the report.

#### 5.1.1 Protection of public health, the environment, public safety and consumers generally

We have had regard to Flow Systems Operations' capacity to construct, maintain and operate non-potable water and sewerage infrastructure of the Glossodia scheme in a manner that does not present a risk to public health, the environment, public safety and consumers generally.

##### Public health

We assess Flow Systems Operations' capacity to manage the key risks posed to public health by the activities to be licensed, having regard to the protection of public health in section 5.4 of this report.

##### Protection of the environment

In section 6 of this report we assess whether Flow Systems Operations has met the requirements for determination under the EP&A Act in relation to the proposed activities. We have also considered whether Flow Systems Operations has the capacity to carry out its activities in a manner that does not present a risk of harm to the environment in section 5.6 of

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<sup>22</sup> Section 7 of the WIC Act

<sup>23</sup> Section 10(3) of the WIC Act

<sup>24</sup> Section 10(4)(a) to 10(4)(e)

<sup>25</sup> Section 10(4)(f)

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this report. In both instances we have undertaken our assessment with regard to the protection of the environment.

#### Protection of public safety

We assessed Flow Systems Operations' capacity to manage key risks with regard to public health specifically and public safety in general in section 5.4 of this report.

#### Protection of consumers generally

We have considered whether any consumers will be disadvantaged as a result of a decision by the Minister to grant Flow Systems Operations a network operator licence in line with the current application.

We received a submission from Sydney Water regarding monopoly service provision. Sydney Water's view is that Flow Systems should be declared a monopoly supplier for the Glossodia development. (see Appendix G and our website). We considered the risk of monopolistic behaviour that may result from a decision to grant Flow Systems Operations a network operator licence.

The Minister can declare a monopoly supplier at any time. This declaration does not have to be made at the time a licence is granted or varied. If the Minister declares a monopoly supplier, the Minister may then refer the monopoly services to us for price regulation.<sup>26</sup>

In its application, Flow Systems Operations states that Flow Systems, as the retail supplier if the variation is granted, has a price parity policy with the local incumbent water authority (ie, meaning that it would charge the same price for water and wastewater as Sydney Water). It also indicates that non-potable water and wastewater fees and charges are reviewed annually and matched to the incumbent. Based on this information, we are satisfied that consumers are unlikely to experience a monopoly pricing issue. Should the Minister declare any monopoly services for the Glossodia scheme, we are of the view that in the current circumstances, there would be no need to refer these monopoly services to IPART for price regulation.

The proposed area of operations for the Glossodia scheme is a new self-contained residential area and does not result in stranded land holders without access to essential services.

We assessed the financial capacity of the applicant and the scheme over the next 10 years, and consider consumers are protected against loss of essential services (see **section 5.3.2** of this report).

If the Minister approves a network operator's licence, we consider that consumers generally will continue to be protected in relation to the activities licensed.

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<sup>26</sup> Determination of the pricing and/or periodic review of the policies. WIC Act, section 52(1).

### **5.1.2 Encouragement of competition in the supply of water and the provision of sewage services**

Historically, Sydney Water has provided monopoly drinking water supply services in the area. Sydney Water also supplies non-potable water to residents of the north-western region of Sydney in nearby Rouse Hill.

Hawkesbury City Council provides town reticulated sewerage services to parts of the local government area, but not to surrounding rural areas or outlying townships. Those areas utilise on-site sewage management systems (eg, septic tank, composting systems or other). In its submission, Sydney Water states that the area proposed to be serviced by the Flow Systems Operations licence is not in the Growth Servicing Plan 2014-19.<sup>27</sup>

This licence would enable a new entity to supply non-potable water and provide sewerage services to the Jacaranda Ponds development. The Minister would not be granting an exclusive right to provide the services to the licensee and allows for future competition in supply. We also had regard to this principle in our assessment of Flow Systems' application to vary its retail supplier's licence to include the Glossodia scheme.<sup>28</sup>

### **5.1.3 Ensuring sustainability of water resources**

Flow Systems Operations would supply non-potable water to Flow Systems who in turn would supply customers for the Glossodia scheme. Rather than discharging treated sewage to the environment, Flow Systems Operations proposes to treat collected sewage to a suitable standard for reuse in toilet flushing, clothes washing, car washing, ornamental water features and irrigation, contributing to the sustainability of water resources from where the drinking water is sourced. This reduces the need to dispose of treated sewage and reduces the demand for drinking water.

### **5.1.4 Promotion of production and use of recycled water**

The promotion and production of non-potable water is a key component of the proposed scheme. If granted a licence, Flow Systems Operations would supply non-potable water (ie, recycled water) to Flow Systems who would supply customers for the Glossodia scheme. Through its website and other marketing material, Flow Systems is also committed to promoting the use of non-potable water in the community.

### **5.1.5 Promotion of policies set out in any prescribed water policy document**

The Metropolitan Water Plan (MWP) is the only prescribed water policy document in the WIC Regulation. The MWP outlines strategies to secure greater Sydney's water supply now and in the future.

<sup>27</sup> Sydney Water Growth Servicing Plan available on: <https://www.sydneywater.com.au/SW/plumbing-building-developing/developing/growth-servicing-plan/index.htm>, accessed on 19 November 2018.

<sup>28</sup> IPART, Report to the Minister – Assessment of Flow Systems Pty Ltd's application to vary its retail supplier's licence no. 13\_001R, July 2017.

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Water conservation is a strategy identified to achieve outcomes stated in the MWP, and the increase of water recycling is a key component in relation to water conservation, liveability and resilience of water resources.<sup>29</sup> Flow Systems Operations provision of recycled water to the Jacaranda Ponds development is consistent with the MWP's conservation strategy.

#### **5.1.6 Potential for adverse financial implications for small retail customers generally arising from the activities proposed to be covered by the licence**

We have not identified any adverse financial implications that may arise from the activities covered in the proposed network operator's licence. We also had regard to this principle in our assessment of Flow Systems' application to vary its retail supplier's licence to include the Glossodia scheme.<sup>30</sup> We consider that the potential risks for adverse financial implications for small retail customers will be adequately mitigated in relation to the activities to be licensed.

#### **5.1.7 Promotion of equitable sharing among participants in the drinking water market of the costs of water industry infrastructure that significantly contributes to water security**

Flow Systems Operations' proposed scheme at Glossodia will supply non-potable water for residential uses and irrigation of public spaces.

#### **5.1.8 Other matters in the public interest**

We did not identify any additional matters with regard to the public interest in relation to Flow Systems Operations constructing, operating and maintaining water industry infrastructure for the Glossodia scheme.

We consider that Flow Systems Operations should not be subject to any other licence conditions in relation to public interest, if the network operator's licence is granted.

### **5.2 A licence may not be granted to a disqualified corporation or an entity related to a disqualified corporation**

**We consider that Flow Systems Operations is neither a disqualified corporation nor a corporation that is a related entity of a relevant<sup>31</sup> disqualified corporation.**

In making this recommendation, we have considered the following information:

- ▼ Statutory declaration<sup>32</sup> signed by Flow Systems Operations' Acting Chief Executive Officer and sole director, stating that:

<sup>29</sup> NSW Metropolitan Water Directorate, *2017 Metropolitan Water Plan, Water for a Liveable, Growing and Resilient Greater Sydney*, March 2017, p 7-8.

<sup>30</sup> IPART, Report to the Minister – *Assessment of Flow Systems Pty Ltd's application to vary its retail supplier's licence no. 13\_001R*, July 2017.

<sup>31</sup> A related entity that would have a direct or indirect interest in, or influence on, the carrying out of the activities that the licence authorises. WIC Act, section 10(3)(b).

<sup>32</sup> Updated statutory declaration dated 20 May 2019.

- Neither Flow Systems Operations, nor any director or person concerned in the management of Flow Systems Operations is, or would be, a disqualified corporation or a disqualified individual within the meaning of the WIC Act.
- Flow Systems Operations is not a related entity of a disqualified corporation that would have a direct or indirect interest in, or influence on, the carrying out of activities that the licence would authorise if granted.
- ▼ Information provided by Flow Systems Operations regarding details of the:
  - Relevant related entities<sup>33</sup>
  - Names of the Directors, Chief Financial Officer and Chief Executive Officer for each of Flow Systems and Flow Systems Operations' relevant related entities (subsidiary companies and holding companies within Australia).
- ▼ Results of ASIC and Dun & Bradstreet reports that we have obtained for Flow Systems Operations, and for the 14 relevant related entities, confirmed that these companies are not disqualified nor are their directors or persons concerned in the management disqualified individuals.<sup>34</sup>
- ▼ Results of our search of the WIC Act licence database showed there are currently no disqualified corporations or individuals on the register pursuant to the WIC Act, sections 16(e) and 16(f).

### **5.3 We have considered whether the Minister could be satisfied that the applicant meets specific criteria**

The Minister must not grant a licence unless satisfied that the applicant satisfies certain criteria. We have assessed Flow Systems application against the criteria below.

#### **5.3.1 Technical capacity**

**We are satisfied that Flow Systems Operations, supported by Flow Systems, has the technical capacity to construct, operate and maintain non-potable water and sewerage infrastructure for the Glossodia scheme.**

Flow Systems Operations relies on the full support of Flow Systems staff and systems to provide technical capacity. We consider that Flow Systems' expertise is critical to Flow Systems Operations' technical capacity and recommend that Flow Systems be named as an authorised person for the construction, operation and maintenance of infrastructure on the licence, if granted. We note that the corporate services agreement<sup>35</sup> between Flow Systems

<sup>33</sup> Flow Systems Operations identified the following relevant related entities: BPIH Utilities Holding Pty Limited (ACN 605338387), Enwave Australia Holdings Pty Limited (ACN 133427022), Brookfield FS Holdings Pty Limited (ACN 623300854), EAWH Pty Ltd (ACN 162523533), Flow Systems Pty Limited (ACN 136272298), Huntlee Water Pty Limited (ACN 167418608), Central Park Water Pty Limited (ACN 151072838), Discovery Point Water Pty Limited (ACN 142392541), Green Square Water Pty Limited (ACN 163432906), Pitt Town Water Pty Limited (ACN 141705660), Wye Water Pty Limited (ACN 160953775), Cooranbong Water Pty Limited (ACN 169450453), Flow Systems Constructors Pty Ltd (ACN 605967280) and Meter 2 Cash solutions Pty Ltd (ACN 130008196).

<sup>34</sup> The relevant searches were completed on 19 September 2019.

<sup>35</sup> Executed as an agreement on 17 June 2016.

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Operations and Flow Systems arranges for the provision of services by Flow Systems to Flow Systems Operations.

We considered a range of information and evidence to establish Flow Systems Operations capacity.

### **Relevant experience**

Flow Systems' technical experience (within Australia), which we assessed by reviewing the schemes currently operated by Flow Systems' subsidiaries (refer to Table C.1). We consider Flow Systems' technical experience is appropriate to provide sufficient technical capacity to Flow Systems Operations in relation to the Glossodia scheme, because they provide technical services for the other subsidiaries.

The technical capability of Flow Systems' personnel<sup>36</sup>, which we assessed from the position descriptions and professional experience of specific personnel nominated to the project in the application. We consider the personnel and positions nominated by Flow Systems are appropriate to provide technical capacity to Flow Systems Operations.

### **Evidence of technical capacity**

Flow Systems has demonstrated its technical capacity through its provision of plans and documents that show an understanding of design, operation and maintenance of non-potable water and sewerage reticulation and treatment infrastructure.

Flow Systems demonstrated capacity to design the scheme and prepare a preliminary risk assessment consistent with the *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) (2006)* (AGWR). We would audit the adequacy of the scheme's water quality plan in relation to consistency with the AGWR prior to Flow Systems Operations commencing commercial operation of the scheme.

Further details of our technical capacity assessment of Flow Systems Operations is in Appendix B.

### **Compliance history**

Recent audit reports for audits of schemes operated by other Flow Systems subsidiaries at Discovery Point, Central Park and Green Square identified several material non-compliances, in regards to full implementation of management plans and safe operation of plant and equipment. While the non-compliances indicate that improvement is required, they did not result in a failure of treatment processes.

On balance, we consider that the ongoing operation of several treatment plants by Flow Systems subsidiaries demonstrates Flow Systems' capacity to safely and reliably design, construct, operate and maintain water industry infrastructure, when supported by the additional conditions. We have recommended an additional licence condition to mitigate the risk of similar non-compliances at Glossodia and will undertake further audits to monitor ongoing compliance.

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<sup>36</sup> Includes employees, contractors, and consultants.

The additional licence conditions are shown in table 5.1, Schedule A, clauses 4.1, 5.1 and 5.2.

We received submissions from Sydney Water and NSW Health regarding Flow Systems Operations' technical capacity. These are available on our website and discussed in the summary of submissions in Attachment G.

In response to Sydney Water's concerns regarding arrangements around backflow prevention, Flow Systems Operations indicated that the network would be designed and constructed in accordance with publicly available standards or codes.<sup>37</sup> NSW Health's concerns are addressed through the standard licence conditions which would be included in the licence and through audits of licence management plans prior to Flow Systems Operations commencing commercial operations.

We recommend that Flow Systems Operations be subject to special (Schedule A) and standard (Schedule B) licence conditions (see draft licence in Appendix A), for technical capacity, if a licence is granted (Table 5.1).

**Table 5.1 Recommended licence conditions for technical capacity**

|                   |   |
|-------------------|---|
| Schedule A<br>1.1 | If an Authorised Person ceases, proposes to cease, or receives notification to cease providing any of the services relating to the activities authorised by this Licence, the Licensee must provide IPART with written notice as soon as practicable but no later than 28 days before the date of cessation of the services, or a later date approved by IPART in writing. The written notice must include details of how the services previously undertaken by the Authorised Person will continue to be undertaken.   |
| Schedule A<br>4.1 | The Licensee must ensure that its Water Quality Plan is a single, cohesive and structured scheme-specific document which specifies the actions the licensee must take to implement the 12 elements of the framework for recycled water quality management and use set out in the Australian Guidelines for Water Recycling.   |
| Schedule A<br>5.1 | The licensee must develop and document, consistent with element 4 of the Australian Guidelines for Water Recycling: <ul style="list-style-type: none"> <li>a) Monitoring protocols for operational performance of the recycled water supply system, including the selection of operational parameters and criteria, and the routine analysis of results;</li> <li>b) Procedures for corrective action where operational parameters are not met;</li> <li>c) Procedures for rapid communication systems to deal with unexpected events; and</li> <li>d) Programs for regular inspection and maintenance of all equipment, including monitoring equipment.</li> </ul> |
| Schedule A<br>5.2 | The Licensee must: <ul style="list-style-type: none"> <li>a) fully implement the Operational Procedures;</li> <li>b) ensure that all of its activities are carried out in accordance with the Operational Procedures; and</li> <li>c) keep records to demonstrate the extent to which the Operational Procedures have been implemented and complied with.</li> </ul>  |
| Schedule B<br>1.1 | The Licensee must have the technical, financial and organisational capacity to carry out the activities authorised by this Licence. If the Licensee ceases to have this capacity, it must report this to IPART in accordance with the Reporting Manual.   |

**Note:** Schedule A are special licence conditions and Schedule B standard licence conditions

<sup>37</sup> If a network operator's licence is granted, it is a requirement of WIC Regulation, schedule 1, section 3(c) that the licensee must ensure the design, construction and operation of water industry infrastructure would have regard to any publicly available standards or codes.

### 5.3.2 Financial capacity

**We are satisfied that Flow Systems Operations, supported by Flow Systems and the Brookfield Group, has the financial capacity to construct, operate and maintain water industry infrastructure, supply non-potable water and provide sewerage services for the Glossodia Scheme.**

Flow Systems Operations relies upon the support of Flow Systems and Flow Systems' ultimate parent corporate group, the Brookfield Infrastructure group of companies (the Brookfield Group) as it does not have financial capacity as a stand-alone entity.

As part of our financial assessment, we considered a number of factors including the financial capacity of Flow Systems Operations, the financial support from Flow Systems and the Brookfield Group and the financial viability of the scheme. Further details of our financial capacity assessment of Flow Systems Operations is in Appendix B.

We note that our financial assessment represents Flow Systems Operations' financial capacity at a point in time. Our recommendation to grant Flow Systems Operations a licence variation should not be viewed as an endorsement of the future ongoing viability of Flow Systems Operations. The assessment is based on a combination of information sources, none of which is to be regarded as individually determinative. This assessment is done for our own purposes and for the Minister's purposes in assessing the application. The conclusion is not to be relied upon for any other purpose or by any other person.

We received no submissions regarding Flow Systems Operations' financial capacity in response to its application for a network operator's licence.

We recommend that Flow Systems Operations should not be subject to any additional licence conditions in relation to financial capacity, if a licence is granted. We recommend that Flow Systems Operations should be subject to the following standard licence condition (see draft licence in Attachment A), in relation to financial capacity, if a licence is granted (Table 5.2)

**Table 5.2 Recommended licence condition for financial capacity**

| Licence condition | Condition details   |
|-------------------|---|
| Schedule B<br>1.1 | The Licensee must have the technical, financial and organisational capacity to carry out the activities authorised by this Licence. If the Licensee ceases to have this capacity, it must report this to IPART in accordance with the Reporting Manual. |

**Note:** Schedule B lists standard licence conditions

### 5.3.3 Organisational capacity

**We are satisfied that Flow Systems Operations, supported by Flow Systems, has the organisational capacity to construct, operate and maintain non-potable water and sewerage infrastructure for the Glossodia scheme.**

We note that Flow Systems Operations has no employees and relies on the full support of Flow Systems to provide organisational capacity. In making our assessment of Flow Systems Operations' organisational capacity we focus on Flow Systems and consider a range of information.

Flow Systems owns and manages its subsidiary companies, including Flow Systems Operations. Flow Systems manages third parties to deliver proposed works based on contractual arrangements and agreements. We considered that the level of experience of the nominated Flow Systems personnel is appropriate to provide organisational capacity to Flow Systems Operations.

As a subsidiary of Flow Systems, Flow Systems Operations relies on Flow Systems for business support. The Corporate Services Agreement and the Deed of Guarantee and Indemnity between Flow Systems Operations and Flow Systems demonstrated continued organisational support from Flow Systems.

Further details of our organisational capacity assessment of Flow Systems Operations is in Appendix B.

We received no submissions regarding Flow Systems Operations' organisational capacity in response to its application for a network operator's licence.

We recommend that Flow Systems Operations be subject to special (Schedule A) and standard (Schedule B) licence conditions (see draft licence in Attachment A), in relation to organisational capacity, if a licence is granted (Table 5.3).

**Table 5.3 Recommended licence conditions for organisational capacity**

| Licence condition | Condition details   |
|-------------------|---|
| Schedule A<br>1.1 | If an Authorised Person ceases, proposes to cease, or receives notification to cease providing any of the services relating to the activities authorised by this Licence, the Licensee must provide IPART with written notice as soon as practicable but no later than 28 days before the date of cessation of the services, or a later date approved by IPART in writing. The written notice must include details of how the services previously undertaken by the Authorised Person will continue to be undertaken. |
| Schedule B<br>1.1 | The Licensee must have the technical, financial and organisational capacity to carry out the activities authorised by this Licence. If the Licensee ceases to have this capacity, it must report this to IPART in accordance with the Reporting Manual.   |

**Note:** Schedule A lists special licence conditions and Schedule B standard licence conditions

## 5.4 Capacity to carry out those activities in a manner that does not present a risk to public health

**We are satisfied that Flow Systems Operations, supported by Flow Systems, has the capacity to supply non-potable water and sewerage infrastructure for the Glossodia scheme, in a manner that does not present a risk to public health.**

We assessed Flow Systems Operations' capacity to manage the following key areas of risks to public health, posed by the construction, operation and maintenance of non-potable water and sewerage infrastructure for the Glossodia scheme.

We considered a range of information and evidence to establish Flow Systems Operations' capacity. Flow Systems Operations demonstrated its capacity to treat sewage and provide fit for purpose non-potable water for the proposed uses, consistent with the AGWR. We consider Flow Systems Operations has demonstrated its capacity to identify and manage hazards in regard to the non-potable and sewage components of the proposed scheme, and has identified reasonable controls and mitigation measures to reduce risks to acceptable levels. Further details of our assessment of Flow Systems Operations' capacity to carry out activities in a manner that does not present a risk to public health is in Appendix B.

We received two submissions regarding Flow Systems Operations' capacity to protect public health. NSW Health supported the licence application but identified a number of concerns.<sup>38</sup> These concerns would be addressed through licence plans audits prior to commencing commercial operation and standard licence conditions. Sydney Water supported the application but identified concerns about backflow prevention devices to protect the drinking water supply.<sup>39</sup> If a network operator's licence is granted, it is a requirement of the WIC Regulation that the licensee must ensure that the design, construction and operation of water industry infrastructure would have regard to any publicly available standards or codes.<sup>40</sup> We have not identified any additional special conditions to address these concerns. All submissions are available on our website and discussed in the summary of submissions in Appendix G.

We recommend that Flow Systems Operations should be subject to standard (Schedule B) licence conditions (see draft licence in Attachment A) in relation to its capacity to protect public health, if a licence is granted (Table 5.4).

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<sup>38</sup> Submission from NSW Health, 23 August 2016.

<sup>39</sup> Submission from Sydney Water, 17 August 2016.

<sup>40</sup> WIC Regulation, Schedule 1, section 3(c).

**Table 5.4 Recommended licence conditions for the protection of public health**

| Licence condition | Condition details   |
|-------------------|---|
| Schedule B 3.1    | The Licensee must carry out the activities authorised by this Licence in compliance with any requirements of NSW Health that:<br>a) IPART has agreed to; and<br>b) are notified from time to time to the Licensee by IPART in writing.  |
| Schedule B 7.1    | The Licensee must undertake any monitoring that is required for the purposes of this Licence, any Plan, the Act or the Regulation in accordance with this clause 7.   |
| Schedule B 7.2    | The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan:<br>a) the date on which the sample was taken;<br>b) the time at which the sample was collected;<br>c) the point or location at which the sample was taken; and<br>d) the chain of custody of the sample (if applicable). |
| Schedule B 7.3    | The Licensee must ensure that analyses of all samples taken for the purposes of Verification Monitoring are carried out by a laboratory accredited for the specified tests by an independent body that is acceptable to NSW Health, such as the National Association of Testing Authorities or an equivalent body.                                      |
| Schedule B 9.1    | If the Licensee proposes to operate the Specified Water Industry Infrastructure to supply non-potable water for an end-use which is not set out in the most recent Water Quality Plan provided to IPART, the Licensee must notify IPART in writing at least 3 months before commencing such operation.  |
| Schedule B 11.1   | If the Licensee becomes aware that a customer's Plumbing is not Code Compliant, the Licensee must, within 10 days, notify the customer and the Plumbing Regulator, in writing, of that fact.  |

**Note:** Schedule A are special licence conditions and Schedule B standard licence condition

## 5.5 Appropriate arrangements with respect to insurance

**We are satisfied that Flow Systems Operations, supported by Flow Systems, has made, and will continue to maintain, appropriate insurance arrangements for the Glossodia scheme.**

We requested advice from Insurance & Care NSW (icare) on the appropriateness of Flow Systems and Flow Systems Operations' insurance arrangements, with respect to the activities to be licensed. As a result of its review, icare considered Flow Systems and Flow Systems Operations insurance arrangements are fit for purpose for the network operator's licence application.<sup>41</sup> Further details of our assessment of Flow Systems Operation' insurance arrangements is in Appendix B.

Based on the advice from icare, we consider that Flow Systems Operations has demonstrated that it has made, and will continue to maintain, appropriate insurance arrangements.

We received no submissions regarding Flow Systems Operations' insurance arrangements.

<sup>41</sup> Email to IPART, icare Insurance and Reinsurance Strategy Manager, 14 September 2016.



We recommend that Flow Systems Operations should be subject to the following standard (Schedule B) licence conditions (see draft licence in Attachment A), in relation to its insurance arrangements, if a licence is granted (Table 5.5).

Standard condition B2.3 of the licence requires the licensee, before commencing to commercially operate, to provide a report from an insurance expert certifying that in the insurance expert's opinion, the type, scope and limit of the insurance held by the licensee is appropriate for the size and nature of the activities under the licence.

**Table 5.5 Recommended licence conditions for insurances**

| Licence condition | Condition details   |
|-------------------|---|
| Schedule B 2.1    | The Licensee must hold insurance that is appropriate for the size and nature of the activities that the Licensee is carrying out under this Licence.  |
| Schedule B 2.2    | The Licensee must provide a copy of each certificate of currency of the insurance maintained by the Licensee to IPART in accordance with the Reporting Manual.  |
| Schedule B 2.3    | Before commencing to commercially operate the Specified Water Industry Infrastructure under this Licence, the Licensee must demonstrate that the insurance held is appropriate for the size and nature of those commercial operation activities, by providing a report to IPART from an Insurance Expert that: <ul style="list-style-type: none"> <li>a) certifies that in the Insurance Expert's opinion, the type, scope and limit of the insurance held by the Licensee is appropriate for the size and nature of those commercial operation activities; and</li> <li>b) is in the form prescribed by the Reporting Manual.</li> </ul>   |
| Schedule B 2.5    | If, in relation to the activities authorised by this Licence, there is, or is to be, a change in either of the following, the Licensee must provide a report to IPART in accordance with the Reporting Manual: <ul style="list-style-type: none"> <li>a) the insurer or underwriting panel in respect of an insurance policy held by the Licensee; or</li> <li>b) the type, scope or limit on the amount of insurance held by the Licensee.</li> </ul>  |
| Schedule B 2.6    | From time to time when requested in writing by IPART, the Licensee must provide a report to IPART, in the manner and form and within the timeframes specified by IPART, from an Insurance Expert certifying that in the Insurance Expert's opinion the type, scope and limit on the amount of insurance held by the Licensee is appropriate for the size and nature of the activities that the Licensee is carrying out under this Licence. <p><i>[Note: The circumstances in which IPART may request a report under clause 2.6 include (but are not limited to) the following:</i></p> <ul style="list-style-type: none"> <li>▼ where IPART considers that there may be a change in the type, scope or limit on the amount of insurance held by the Licensee in relation to activities that the Licensee is carrying out under this Licence;</li> <li>▼ where there is a change in the type or extent of activities authorised by this Licence; or</li> <li>▼ where IPART or an approved auditor considers that the type, scope or limit on the amount of insurance held by the Licensee may not be appropriate for the size and nature of the activities that the Licensee is carrying out under this Licence.</li> </ul> |

**Note:** Schedule B lists standard licence condition

## 5.6 Capacity to carry out those activities in a manner that does not present a significant risk of harm to the environment

**We are satisfied that Flow Systems Operations, supported by Flow Systems, has the capacity to construct, operate and maintain non-potable water and sewerage infrastructure for the Glossodia scheme in a manner that does not present a significant risk of harm to the environment.**

### Understanding of environmental regulations in NSW

Flow Systems Operations identified that an environmental protection licence is not required for the recycled water treatment plant. EPA confirmed that no approval is required under the *Protection of the Environment Operations Act 1997* (POEO Act).<sup>42</sup>

### Capacity to comply with environmental regulations

Search of EPA's public registers did not identify any notices, convictions or civil proceedings, enforceable undertakings or penalties issued under the POEO Act for Flow Systems or Flow Systems Operations.<sup>43</sup>

### Capacity to implement environmental management processes in relation to the activities to be licensed

Flow Systems Operations has demonstrated its capacity to implement environmental management processes, through its risk assessments for non-potable water and sewerage activities and Flow Systems' ISO 14001 certification (Environmental Management Systems).

Flow Systems has experience in preparing environmental assessment reports and providing appropriate mitigation measures, as shown in recent network operator's licence applications including Huntlee, Cooranbong, Green Square and Box Hill North schemes. This demonstrates that Flow Systems Operations, supported by Flow Systems, has the capacity to implement the appropriate management systems that document and implement preventive measures to not cause significant harm to the environment during the construction, operation and maintenance of sewage and water infrastructure.

Further, Flow Systems Operations engaged a consultant to prepare separate REFs for the proposed non-potable water and pressure sewage reticulation system, and for the water recycling facility (see our assessment of the protection of the environment in section 6).

<sup>42</sup> Submission from EPA, 17 August 2016.

<sup>43</sup> EPA is required to maintain several public registers under section 308 of the POEO Act. We searched the register for any notices of conviction and civil proceedings, enforceable undertakings, and penalties on 24 September 2019. Available at: <https://www.epa.nsw.gov.au/licensing-and-regulation/public-registers>

**IPART** Assessment of Flow Systems Operations' network operator's licence application for the Glossodia scheme

We received no submissions on Flow Systems Operations capacity to construct, operate and maintain non-potable water and sewerage infrastructure for the Glossodia scheme, in a manner that does not present a significant risk of harm to the environment. EPA made a submission<sup>44</sup> regarding public interest considerations, and our response is in the summary of submissions in Attachment G. We consider no additional conditions are required in response to concerns around irrigation management practices with recycled water as these concerns would be addressed through the standard conditions.

We recommend that Flow Systems Operations should be subject to the following special (Schedule A) licence conditions (see draft licence in Attachment A), in relation to its capacity to protect the environment, if a licence is granted:

**Table 5.6 Recommended licence conditions for protection of the environment**

| Licence condition | Condition details   |
|-------------------|---|
| Schedule A<br>2.1 | Where the Licensee carries out any activities authorised by this Licence, the Licensee must: <ul style="list-style-type: none"> <li>a) implement environmental risk mitigation measures substantially consistent with the environmental risk mitigation measures identified in the REF; and</li> <li>b) specify, in any Plan or combination of Plans, how the Licensee will implement environmental risk mitigation measures substantially consistent with the environmental risk mitigation measures identified in the REF.</li> </ul> |
| Schedule A<br>3.1 | The Licensee must not commence, or authorise the commencement of, the construction of any Specified Water Industry Infrastructure until after the Licensee has provided a Construction Environmental Management Plan to IPART, and IPART has provided written approval of the Construction Environmental Management Plan to the Licensee.   |
| Schedule A<br>3.2 | The Licensee must ensure that the construction of any Specified Water Industry Infrastructure is carried out in accordance with the approved Construction Environmental Management Plan.  |

Note: Schedule A lists special licence conditions.

## 5.7 Public interest considerations

**We consider that Flow Systems Operations should not be subject to any other licence conditions in relation to public interest.**

EPA made a submission<sup>45</sup> regarding public interest considerations. We have addressed their submission in section 5.6 above and detailed our response in the summary of submissions in Attachment G. We have not identified any additional public interest matters that we consider relevant to the granting of this licence.

<sup>44</sup> Submission from EPA, 17 August 2016.

<sup>45</sup> Submission from EPA, 17 August 2016.

## 6 Environmental assessment of the Glossodia scheme

### 6.1 Part 5 of the EP&A Act

In addition to a licence application assessment, the Glossodia scheme requires a Part 5 infrastructure and environmental assessment to be undertaken. We have examined and taken into account to the fullest extent possible all matters affecting or likely to affect the environment should the Minister grant the licence for the Glossodia scheme.

### 6.2 Environmental assessment

We have considered the following information:

#### **REF for the recycled water treatment plant:<sup>46</sup>**

This report outlines Flow Systems Operations' assessment of the environmental impact of the construction, operation and maintenance of the proposed recycled water treatment plant. The REF for the water recycling facility notes that the affected area is not large enough (237m<sup>2</sup>) to trigger the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) approval requirement for the facility.<sup>47</sup> The REF concluded that the proposed activities, with proposed mitigation measures, are not likely to significantly affect the environment.

#### **REF for the proposed sewage and non-potable water reticulation systems:<sup>48</sup>**

This report outlines Flow Systems Operations' assessment of the environmental impacts of the construction, operation and maintenance of the proposed sewage and non-potable water reticulation networks for the Glossodia scheme. The REF concluded that the proposed activities, in conjunction with the proposed mitigation measures, are not likely to significantly affect the environment.

#### **Consultant's review of the Glossodia recycled water treatment plant REF and the Glossodia sewage and non-potable water reticulation REF:<sup>49</sup>**

We engaged a consultant to review the REFs provided by Flow Systems Operations. Following comments from the consultant, Flow Systems Operations amended the REFs and resubmitted them to us. The consultant reviewed the updated REFs and concluded that:

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<sup>46</sup> RPS, *REF for proposed local water centre, Glossodia, NSW*, Version 6, 10 December 2018.

<sup>47</sup> The trigger for approval under EPBC Act is 0.5ha or greater.

<sup>48</sup> RPS, *REF for proposed sewage and recycled water reticulation systems, Glossodia, NSW*, Version 5, 10 December 2018.

<sup>49</sup> SLR, *Final (detailed) review of the Review of Environmental Factors for proposed local water centre Glossodia NSW and the Review of Environmental Factors for Proposed Sewage and Recycled Water Reticulation Systems* Glossodia NSW, 13 December 2018.

- 
- ▼ The consultant considers the revised REFs meet the requirements for determination under the EP&A Act and have taken into account to the fullest extent possible all matters affecting or likely to affect the environment associated with the proposed development.
  - ▼ The proposed activities are not likely to significantly affect the environment or any protected biodiversity.
  - ▼ The REF provides a range of mitigation measures to be implemented during construction that would adequately mitigate any environmental risks.
  - ▼ Appropriately qualified and experienced personnel prepared and approved the REF.
  - ▼ With regard to protection of the environment, the consultant is satisfied that the proposed activities can be carried out with acceptable risks to the environment, provided the issues raised in submissions are appropriately addressed and the protection and mitigation measures specified in the REF are implemented.





## Appendices





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## A Draft Licence



# **NEW SOUTH WALES GOVERNMENT**

***Water Industry Competition Act 2006 (NSW)***

**Network operator's licence**

Licence no. 19\_043

Flow Systems Operations Pty Ltd

(ACN 603 106 305)

## PRELIMINARY

### 1. Summary

- 1.1. This Licence is granted under section 10(1) of the Act.
- 1.2. The Act prohibits a person from constructing, maintaining or operating any water industry infrastructure otherwise than under the authority of a licence. This Licence authorises the Licensee and other Authorised Persons to carry out such activities that would otherwise be prohibited under the Act.

### 2. Outline

- 2.1. This Licence is divided into the following sections and schedules:

|   |
|---|
| <p><b>Section 1</b> authorises the construction, maintenance and operation of water infrastructure for non-potable water (if applicable).</p>         |
| <p><b>Section 2</b> authorises the construction, maintenance and operation of water infrastructure for drinking water (if applicable).</p>            |
| <p><b>Section 3</b> authorises the construction, maintenance and operation of sewerage infrastructure (if applicable).</p>                            |
| <p><b>Schedule A</b> sets out special Ministerially-imposed licence conditions that are specific to this Licence.</p>                                 |
| <p><b>Schedule B</b> sets out Ministerially-imposed licence conditions that generally apply to network operators' licences granted under the Act.</p> |
| <p><b>Schedule C</b> sets out definitions and interpretation provisions.</p>  |

- 2.2. In addition to the conditions in Schedules A and B to this Licence, the Act and Regulation also contain conditions that apply to this Licence. Nothing in Schedules A or B modify or affect the conditions imposed on this Licence by the Act or Regulation.

## SECTION 1 – ACTIVITIES AUTHORISED: NON-POTABLE WATER

Subject to the conditions imposed by the Act, the Regulation and Schedules A and B of this Licence, this Licence authorises the Licensee and any Authorised Persons specified in Table 1.1 to construct, maintain and operate the water industry infrastructure specified in Table 1.2:

- a) for one or more of the purposes for water industry infrastructure specified in Table 1.2; and
- b) within the area of operations specified in Table 1.3.

The non-potable water supplied by means of the water industry infrastructure specified in Table 1.2 may only be used for the authorised purposes for non-potable water specified in Table 1.4.

**Table 1.1 Authorised Persons**

|  |
|--|
| Flow Systems Pty Ltd (ACN 136 272 298) |
|--|

**Table 1.2 Water industry infrastructure and purposes for water industry infrastructure**

- |  |
|--|
| <ol style="list-style-type: none"><li>1) A treatment plant for non-potable water and other water infrastructure used, or to be used, in connection with the treatment plant, where components of the treatment plant or other water infrastructure may be used for one or more of the following purposes for water industry infrastructure:<ol style="list-style-type: none"><li>a) production of non-potable water, including (but not limited to) any treatment and filtration of water or sewage for that purpose;</li><li>b) storage of non-potable water; and</li><li>c) conveyance of non-potable water.</li></ol></li><li>2) A reticulation network for non-potable water and other water infrastructure used, or to be used, in connection with the reticulation network, where components of the reticulation network or other water infrastructure may be used for one or more of the following purposes for water industry infrastructure:<ol style="list-style-type: none"><li>a) production of non-potable water, including (but not limited to) any treatment and filtration of water or sewage for that purpose;</li><li>b) storage of non-potable water; and</li><li>c) conveyance of non-potable water.</li></ol></li></ol> |
|--|

**Table 1.3 Area of operations**

The land situated under the following folio identifiers:

| <b>Lot</b> | <b>Deposited Plan</b> |
|------------|-----------------------|
| 75         | 214752                |
| 1          | 784300                |
| 2          | 784300                |
| 3          | 784300                |
| 50         | 751637                |
| 3          | 230943                |
| 20         | 214753                |
| 52         | 1104504               |
| 2          | 533402                |
| 44         | 214755                |

**Table 1.4 Authorised purposes for non-potable water**

- 1) Toilet flushing
- 2) Washing machines (cold water)
- 3) Car washing
- 4) Ornamental water features
- 5) Irrigation by end users for watering plants, gardens, lawns etc.
- 6) Irrigation of public open space with permanent irrigation systems as each area is established
- 7) Irrigation of newly developed land release stages (using relocatable surface irrigation systems) in readiness for sale
- 8) Dust suppression for construction activities

## SECTION 2 – ACTIVITIES AUTHORISED: DRINKING WATER

[Not applicable]

**Table 2.1 Authorised Persons**

|                  |
|------------------|
| [Not applicable] |
|------------------|

**Table 2.2 Water industry infrastructure and purposes for water industry infrastructure**

|                  |
|------------------|
| [Not applicable] |
|------------------|

**Table 2.3 Area of operations**

|                  |
|------------------|
| [Not applicable] |
|------------------|

### SECTION 3 – ACTIVITIES AUTHORISED: SEWERAGE SERVICES

Subject to the conditions imposed by the Act, the Regulation and Schedules A and B of this Licence, this Licence authorises the Licensee and any Authorised Persons specified in Table 3.1 to construct, maintain and operate the water industry infrastructure specified in Table 3.2:

- a) for one or more of the purposes for water industry infrastructure specified in Table 3.2; and
- b) within the area of operations specified in Table 3.3.

**Table 3.1 Authorised Persons**

|  |
|--|
| Flow Systems Pty Ltd (ACN 136 272 298) |
|--|

**Table 3.2 Water industry infrastructure and purposes for water industry infrastructure**

- |  |
|--|
| <ol style="list-style-type: none"><li>1) A treatment plant for sewage and other sewerage infrastructure used, or to be used, in connection with the treatment plant, where components of the treatment plant or other sewerage infrastructure may be used for one or more of the following purposes for water industry infrastructure:<ol style="list-style-type: none"><li>a) production of treated non-potable water from sewage, including (but not limited to) any treatment of sewage for that purpose;</li><li>b) storage of sewage; and</li><li>c) conveyance of sewage.</li></ol></li><li>2) A reticulation network for sewage and other sewerage infrastructure used, or to be used, in connection with the reticulation network, where components of the reticulation network or other sewerage infrastructure may be used for one or more of the following purposes for water industry infrastructure:<ol style="list-style-type: none"><li>a) production of treated non-potable water from sewage, including (but not limited to) any treatment of sewage for that purpose;</li><li>b) storage of sewage; and</li><li>c) conveyance of sewage.</li></ol></li></ol> |
|--|

**Table 3.3 Area of operations**

The land situated under the following folio identifiers:

| <b>Lot</b> | <b>Deposited Plan</b> |
|------------|-----------------------|
| 75         | 214752                |
| 1          | 784300                |
| 2          | 784300                |
| 3          | 784300                |
| 50         | 751637                |
| 3          | 230943                |
| 20         | 214753                |
| 52         | 1104504               |
| 2          | 533402                |
| 44         | 214755                |



## **SCHEDULE A – SPECIAL MINISTERIALLY-IMPOSED LICENCE CONDITIONS**

### **1. Notification of changes to Authorised Person**

- 1.1. If an Authorised Person ceases, proposes to cease, or receives notification to cease providing any of the services relating to the activities authorised by this Licence, the Licensee must provide IPART with written notice as soon as practicable but no later than 28 days before the date of cessation of the services, or a later date approved by IPART in writing. The written notice must include details of how the services previously undertaken by the Authorised Person will continue to be undertaken.

### **2. Review of Environmental Factors**

- 2.1. Where the Licensee carries out any activities authorised by this Licence, the Licensee must:
- a) implement environmental risk mitigation measures substantially consistent with the environmental risk mitigation measures identified in the REF; and
  - b) specify, in any Plan or combination of Plans, how the Licensee will implement environmental risk mitigation measures substantially consistent with the environmental risk mitigation measures identified in the REF.

### **3. Construction Environmental Management Plan**

- 3.1. The Licensee must not commence, or authorise the commencement of, the construction of any Specified Water Industry Infrastructure until after the Licensee has provided a Construction Environmental Management Plan to IPART, and IPART has provided written approval of the Construction Environmental Management Plan to the Licensee.
- 3.2. The Licensee must ensure that the construction of any Specified Water Industry Infrastructure is carried out in accordance with the approved Construction Environmental Management Plan.

### **4. Water Quality Plan**

- 4.1. The Licensee must ensure that its Water Quality Plan is a single, cohesive and structured scheme-specific document which specifies the actions the licensee must take to implement the 12 elements of the framework for recycled water quality management and use set out in the Australian Guidelines for Water Recycling.

## **5. Operational Procedures**

5.1. The Licensee must develop and document, consistent with element 4 of the Australian Guidelines for Water Recycling, the following Operational Procedures:

- a) Monitoring protocols for operational performance of the recycled water supply system, including the selection of operational parameters and criteria, and the routine analysis of results;
- b) Procedures for corrective action where operational parameters are not met;
- c) Procedures for rapid communication systems to deal with unexpected events; and
- d) Programs for regular inspection and maintenance of all equipment, including monitoring equipment.

5.2. The Licensee must:

- a) fully implement the Operational Procedures;
- b) ensure that all of its activities are carried out in accordance with the Operational Procedures; and
- c) keep records to demonstrate the extent to which the Operational Procedures have been implemented and complied with.

## **SCHEDULE B – GENERAL MINISTERIALLY-IMPOSED LICENCE CONDITIONS**

### **1. Ongoing capacity to operate**

- 1.1. The Licensee must have the technical, financial and organisational capacity to carry out the activities authorised by this Licence. If the Licensee ceases to have this capacity, it must report this to IPART in accordance with the Reporting Manual.

### **2. Maintaining appropriate insurance**

- 2.1. The Licensee must hold insurance that is appropriate for the size and nature of the activities that the Licensee is carrying out under this Licence.
- 2.2. The Licensee must provide a copy of each certificate of currency of the insurance maintained by the Licensee to IPART in accordance with the Reporting Manual.
- 2.3. Before commencing to commercially operate the Specified Water Industry Infrastructure under this Licence, the Licensee must demonstrate that the insurance held is appropriate for the size and nature of those commercial operation activities, by providing a report to IPART from an Insurance Expert that:
- a) certifies that in the Insurance Expert's opinion, the type, scope and limit of the insurance held by the Licensee is appropriate for the size and nature of those commercial operation activities; and
  - b) is in the form prescribed by the Reporting Manual.
- 2.4. [Not applicable]
- 2.5. If, in relation to the activities authorised by this Licence, there is, or is to be, a change in either of the following, the Licensee must provide a report to IPART in accordance with the Reporting Manual:
- a) the insurer or underwriting panel in respect of an insurance policy held by the Licensee; or
  - b) the type, scope or limit on the amount of insurance held by the Licensee.
- 2.6. From time to time when requested in writing by IPART, the Licensee must provide a report to IPART, in the manner and form and within the timeframes specified by IPART, from an Insurance Expert certifying that in the Insurance Expert's opinion the type, scope and limit on the amount of insurance held by the Licensee is appropriate for the size and nature of the activities that the Licensee is carrying out under this Licence.

*[Note: The circumstances in which IPART may request a report under clause 2.6 include (but are not limited to) the following:*

- *where IPART considers that there may be a change in the type, scope or limit on the amount of insurance held by the Licensee in relation to activities that the Licensee is carrying out under this Licence;*
- *where there is a change in the type or extent of activities authorised by this Licence; or*
- *where IPART or an approved auditor considers that the type, scope or limit on the amount of insurance held by the Licensee may not be appropriate for the size and nature of the activities that the Licensee is carrying out under this Licence.]*

### **3. Complying with NSW Health requirements**

- 3.1. The Licensee must carry out the activities authorised by this Licence in compliance with any requirements of NSW Health that:
- a) IPART has agreed to; and
  - b) are notified from time to time to the Licensee by IPART in writing.

### **4. Complying with Audit Guidelines**

- 4.1. The Licensee must comply with any Audit Guidelines issued by IPART.

### **5. Reporting in accordance with the Reporting Manual**

- 5.1. The Licensee must prepare and submit reports in accordance with the Reporting Manual.

### **6. Reporting information in relation to the register of licences**

- 6.1. The Licensee must notify IPART, and provide IPART with details, of any change in relation to the following, in accordance with the Reporting Manual, within 14 days of the change:
- a) any source from which the water handled by the Specified Water Industry Infrastructure is derived;
  - b) the identity of each licensed retail supplier or public water utility that has access to the infrastructure services provided by the Specified Water Industry Infrastructure for the purpose of supplying water to its customers;

- c) any other water infrastructure to which the Specified Water Industry Infrastructure is connected;
- d) in the case of non-potable water, the authorised purposes for that water;
- e) the identity of each licensed retail supplier or public water utility that has access to infrastructure services provided by the Specified Water Industry Infrastructure for the purpose of providing sewerage services to its customers;
- f) any other sewerage infrastructure to which the Specified Water Industry Infrastructure is connected; and
- g) the arrangements for the disposal of waste from the water industry infrastructure specified in section 3, Table 3.2.

## **7. Monitoring**

- 7.1. The Licensee must undertake any monitoring that is required for the purposes of this Licence, any Plan, the Act or the Regulation in accordance with this clause 7.
- 7.2. The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan:
  - a) the date on which the sample was taken;
  - b) the time at which the sample was collected;
  - c) the point or location at which the sample was taken; and
  - d) the chain of custody of the sample (if applicable).
- 7.3. The Licensee must ensure that analyses of all samples taken for the purposes of Verification Monitoring are carried out by a laboratory accredited for the specified tests by an independent body that is acceptable to NSW Health, such as the National Association of Testing Authorities or an equivalent body.

## **8. Delineating responsibilities**

- 8.1. If a code of conduct has not been established under clause 25 of the Regulation, the Licensee must, by a date specified by IPART, establish a code of conduct (**Licensee's Code of Conduct**) in accordance with this clause 8.
- 8.2. Before the Licensee brings the Specified Water Industry Infrastructure into commercial operation or by a later date specified by IPART (if any), the Licensee's Code of Conduct must be agreed in writing between:
  - a) the Licensee; and
  - b) each licensed network operator, licensed retail supplier and/or public water utility that:

- i) supplies water or provides sewerage services by means of any water industry infrastructure that is connected to the Specified Water Industry Infrastructure; or
- ii) constructs, maintains or operates any water industry infrastructure that is connected to the Specified Water Industry Infrastructure.

8.3. [Not applicable]

8.4. The Licensee's Code of Conduct must set out the respective responsibilities of the entities specified in clause 8.2 by, at a minimum, providing for:

- a) who is responsible for repairing, replacing or maintaining any pipes, pumps, valves, storages or other infrastructure connecting the Specified Water Industry Infrastructure to the other water industry infrastructure;
- b) who is responsible for water quality;
- c) who is liable in the event of the unavailability of water;
- d) who is liable in the event of failure of any water industry infrastructure;
- e) the fees and charges payable in respect of the use of the water industry infrastructure; and
- f) who is responsible for handling customer complaints.

8.5. The Licensee must not contravene the Licensee's Code of Conduct to the extent that it makes the Licensee responsible or liable for the matters set out in it.

## **9. Notification of changes to end-use**

9.1. If the Licensee proposes to operate the Specified Water Industry Infrastructure to supply non-potable water for an end-use which is not set out in the most recent Water Quality Plan provided to IPART, the Licensee must notify IPART in writing at least 3 months before commencing such operation.

## **10. Notification of commercial operation**

10.1. Each time the Licensee has brought any new Specified Water Industry Infrastructure into commercial operation, the Licensee must:

- a) notify IPART in accordance with the Reporting Manual that it has brought the relevant Specified Water Industry Infrastructure into commercial operation; and
- b) provide such notification within 10 days after it has brought the relevant Specified Water Industry Infrastructure into commercial operation.

**11. Notification of non-compliant Plumbing**

- 11.1. If the Licensee becomes aware that a customer's Plumbing is not Code Compliant, the Licensee must, within 10 days, notify the customer and the Plumbing Regulator, in writing, of that fact.

## SCHEDULE C – INTERPRETATION AND DEFINITIONS

### 1. Interpretation

1.1. In this Licence, unless the context requires otherwise:

- a) the singular includes the plural and vice versa;
- b) headings are used for convenience only and do not affect the interpretation of this Licence;
- c) a reference to a document includes the document as modified from time to time and any document replacing it;
- d) a reference to a “person” includes a natural person and any body or entity whether incorporated or not;
- e) a reference to a clause is to a clause in this Licence;
- f) a reference to a section is to a section in this Licence;
- g) a reference to a schedule is to a schedule to this Licence;
- h) a reference to a law or statute includes regulations, rules, codes and other instruments under it, and consolidations, amendments, re-enactments or replacements of them; and
- i) explanatory notes do not form part of this Licence, but in the case of uncertainty may be relied on for interpretation purposes.

### 2. Definitions

2.1. Expressions used in this Licence that are defined in the Act or the Regulation have the meanings set out in the Act or the Regulation.

2.2. In this Licence:

Act means the *Water Industry Competition Act 2006* (NSW).

Audit Guidelines means the document titled “*Audit Guideline – Water Industry Competition Act 2006*”, which is prepared by IPART and is available on IPART’s website at [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au), and any other guidelines issued by IPART in relation to audits under the Act.



|  |  |
|--|--|
| Authorised Person                          | means each person specified in, as applicable: <ul style="list-style-type: none"> <li>a) section 1, Table 1.1;</li> <li>b) section 2, Table 2.1; and</li> <li>c) section 3, Table 3.1.</li> </ul>  |
| Code Compliant                             | has the meaning given to that term under section 7 of the <i>Plumbing and Drainage Act 2011</i> (NSW).   |
| Construction Environmental Management Plan | means a site or project specific plan which: <ul style="list-style-type: none"> <li>a) complies with the basic structure detailed in the Environmental Management Plan Guidelines; and</li> <li>b) identifies how the Licensee will implement the environmental risk mitigation measures identified in the REF to the extent they relate to construction.</li> </ul> |
| Environmental Management Plan Guidelines   | means the document titled “ <i>Guideline for the Preparation of Environmental Management Plans</i> ”, prepared by the Department of Infrastructure, Planning and Natural Resources.  |
| Insurance Expert                           | means an insurance broker which holds an Australian financial services licence under Part 7.6 of the <i>Corporations Act 2001</i> (Cth) that authorises the broker to provide financial product advice for, and deal in, contracts of insurance within the meaning of Chapter 7 of that Act.   |
| IPART                                      | means the Independent Pricing and Regulatory Tribunal of New South Wales established under the <i>Independent Pricing and Regulatory Tribunal Act 1992</i> (NSW).  |
| Licence                                    | means this network operator’s licence granted under section 10 of the Act.   |
| Licensee                                   | means Flow Systems Operations Pty Ltd (ACN 603 106 305).   |
| Licensee’s Code of Conduct                 | has the meaning given in Schedule B, clause 8.1.   |

|                        |   |
|------------------------|---|
| Minister               | means the Minister responsible for Part 2 of the Act.   |
| NSW Health             | means the Water Unit of NSW Ministry of Health and any of the local health districts as defined by the NSW Ministry of Health.  |
| Operational Procedures | means the protocols, procedures and programs referred to in Schedule A, clause 5.1(a)-(d).  |
| Plan                   | means any infrastructure operating plan, water quality plan or sewage management plan that the Licensee is required to prepare under the Regulation.  |
| Plumbing               | means any pipe, fitting or apparatus that is situated: <ul style="list-style-type: none"> <li>a) downstream of the customer's connection point to a water main, where the water main is Specified Water Industry Infrastructure;</li> <li>b) upstream of a customer's connection point to a sewer main, where the sewer main is Specified Water Industry Infrastructure; or</li> <li>c) upstream of a customer's connection point to a stormwater drain, where the stormwater drain is Specified Water Industry Infrastructure.</li> </ul>                                    |
| Plumbing Regulator     | has the meaning given to that term under section 3 of the <i>Plumbing and Drainage Act 2011</i> (NSW).  |
| REF                    | means the following two documents, but does not include any modified versions of those documents or any documents replacing those documents: <ul style="list-style-type: none"> <li>a) the document titled "<i>REF for Proposed Sewage and Recycled Water Reticulation Systems, Glossodia, NSW</i>", Version 5, prepared by RPS Australia East Pty Ltd and dated 10 December 2018; and</li> <li>b) the document titled "<i>REF for Proposed Local Water Centre, Glossodia, NSW</i>", Version 6, prepared by RPS Australia East Pty Ltd and dated 10 December 2018.</li> </ul> |
| Regulation             | means the <i>Water Industry Competition (General) Regulation 2008</i> (NSW).  |

|   |   |
|---|---|
| Reporting Manual                        | means the document titled “ <i>Network Operator’s Reporting Manual</i> ”, which is prepared by IPART and is available on IPART’s website at <a href="http://www.ipart.nsw.gov.au">www.ipart.nsw.gov.au</a> .            |
| Specified Water Industry Infrastructure | means the water industry infrastructure specified in, as applicable: <ul style="list-style-type: none"> <li>a) section 1, Table 1.2;</li> <li>b) section 2, Table 2.2; and</li> <li>c) section 3, Table 3.2.</li> </ul> |
| Verification Monitoring                 | means verification monitoring as described in the document titled “ <i>Australian Drinking Water Guidelines</i> ” or the document titled “ <i>Australian Guidelines for Water Recycling</i> ” as the case may be.       |
| Water Quality Plan                      | means the water quality plan that the Licensee is required to prepare under the Regulation.   |

## B Flow Systems Operations application detailed capacity analysis

As part of our assessment, we considered:

### Evidence of technical capacity

- ▼ **Reports, plans and procedures that Flow Systems<sup>50</sup> prepared for similar projects (eg, Pitt Town, Box Hill North, Huntlee, and Cooranbong):** These documents demonstrated that Flow Systems has a technical understanding of design, operation and maintenance of non-potable water and sewage reticulation and treatment infrastructure.
- ▼ **Process flow diagrams<sup>51</sup> for non-potable water and sewerage (including staged, interim and permanent facility development):** The diagrams identify the preliminary critical control points for each treatment stage and expected removal efficiencies for key water quality parameters (ie, virus, protozoa and bacteria for non-potable water treatment).

This is evidence of Flow Systems' capacity to design an effective multi-barrier treatment system for constructing each stage of the proposed scheme that is consistent with the *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) (2006)* (AGWR).<sup>52</sup>

- ▼ **Preliminary risk assessment<sup>53</sup> for the non-potable water and sewerage infrastructure:** The assessment demonstrates Flow Systems' technical capacity to identify hazards and risks related to the scheme's non-potable water and sewerage infrastructure and its business systems, and to develop control measures to manage these risks. Further, the preliminary risk assessment demonstrates Flow Systems' technical capacity to understand and implement the AGWR.
- ▼ **Proposed non-potable water and pressure sewer reticulation masterplans:<sup>54</sup>** These masterplans demonstrate Flow Systems Operations' technical capacity, supported by Flow Systems, to design staged reticulation networks in accordance with the future project demands and staging requirements.<sup>55</sup>
- ▼ **A water balance report<sup>56</sup> that includes forecasts for non-potable water demands and wastewater production at each stage of the development:** The water balance report demonstrates Flow Systems Operations' technical capacity (supported by Flow Systems), to forecast demand and usage parameters (eg, non-potable water demand, irrigation and top-up volumes), and to consider key information such as weather conditions and system losses.

<sup>50</sup> Flow Systems would be undertaking these activities on behalf of Flow Systems Operations.

<sup>51</sup> Glossodia Sewerage and Recycled Water Process Flow Diagram, version D, 17 June 2016.

<sup>52</sup> WIC Regulation, Sch. 1 cl. 7(1)(b) and 7(3).

<sup>53</sup> Glossodia Scheme Risk Register, Flow Systems, 19 July 2018.

<sup>54</sup> Prepared by Pressure System Solutions for Flow Systems, Glossodia – Jacaranda Ponds, Recycled Water Functional Design, Rev A, 15 February 2016, and Pressure Sewerage Collection System Function Design, Rev A, 15 February 2016.

<sup>55</sup> WIC Regulation, Sch. 1 cl. 6(1) and 13(1).

<sup>56</sup> Prepared by Kinesis for Flow Systems, Version 0.3, 11 April 2016.

- ▼ **Flow Systems’ recycled water quality plan:**<sup>57</sup> The plan describes how the operation and maintenance of infrastructure would be consistent with the AGWR. We would audit the adequacy of the water quality plan in relation to consistency with the AGWR prior to Flow Systems Operations commencing commercial operation of the scheme.<sup>58</sup>
- ▼ **Flow Systems’ infrastructure operating plan:**<sup>59</sup> This plan outlines the asset lifecycle planning, system redundancy and condition monitoring for water industry infrastructure, amongst other infrastructure management considerations.
- ▼ **Flow Systems’ sewage management plan:**<sup>60</sup> The plan outlines relevant practices and commitment to responsible management of sewage, including elements such as incident notifications, monitoring and waste disposal.
- ▼ **Flow Systems’ scheme management plan:**<sup>61</sup> This document provides a plan framework and scheme-specific details from relevant Flow System’s plans (as noted above) for the proposed infrastructure. It also integrates elements from the asset management plan, incident management plan and operations environmental management plan.
- ▼ **Flow Systems’ Recycled Water Irrigation Management Plan:**<sup>62</sup> The plan provides an overview of how Flow Systems would manage the irrigation of recycled water in Designated Irrigation Zones<sup>63</sup> to maintain its responsibilities in regard to public health and the local environment.

### Evidence of financial capacity

- ▼ **Three important contributing factors:**
  - Financial capacity of Flow Systems Operations - in the broader context of the scheme’s viability and Flow Systems Operations’ corporate structure and ownership.
  - Financial viability of the scheme - which directly influences the capacity of the applicant to undertake the activities authorised by the licence.
  - Other contextual factors - any other contextual factors that may impact on financial capacity of the licence applicant (eg, parent company support, past performance in operating similar schemes).
- ▼ **Cash flow:** Flow Systems Operations’ projected cash flows for the Glossodia scheme over the next 10 years show that the scheme will provide positive cash flows from operations in the future. We note positive cash flow projections are dependent on variables including the rate of lot sales, estimates of future costs, and developer contributions (noting that developer contributions have already substantially occurred).
- ▼ **Other information:**
  - A Deed of Guarantee and Indemnity between Flow Systems and Flow Systems Operations, a facility agreement between the Brookfield Group and Flow Systems and

<sup>57</sup> Revision 3, February 2015.

<sup>58</sup> WIC Regulation, Sch. 1 cl. 3 and cl. 6(1)

<sup>59</sup> Revision 6, May 2016.

<sup>60</sup> Revision 4, May 2017.

<sup>61</sup> Revision 3, July 2016.

<sup>62</sup> Revision 3, June 2018.

<sup>63</sup> Flow Systems defines Designated Irrigation Zones as those areas it is responsible for, and excludes private property irrigation and common area irrigation where irrigation is the responsibility of Council or other authority.

a further facility agreement between the Brookfield Group and all companies in the Flow Systems group. Together these agreements provide financial capacity for Flow Systems Operations.

- The Flow Systems group of companies, which includes Flow Systems Operations, hold existing WIC Act licences for nine other schemes and have a history of successful scheme management.
- The Flow Systems group ended a period of Administration in April 2019. We note that there was continuity of operations across all schemes during this period.
- Projected cash flow forecasts for the Glossodia scheme which show the scheme is financially viable in the medium to long term (which lowers risk to continuity of service from a loss of financial capacity).
- Historic financial performance information including externally prepared profit and loss statements, balance sheets, company tax returns, an Administrators Report, and management reports, including trial balance, creditor and debtor reports.
- Financial ratio analysis.

### Evidence of organisational capacity

- ▼ **The organisational structure**<sup>64</sup> - Flow Systems owns and manages its subsidiary companies, including Flow Systems Operations. Flow Systems Operations manages third parties to deliver the proposed works based on contractual arrangements and agreements.
- ▼ **The organisational chart**<sup>65</sup> - key personnel for areas such as business development, project delivery, operations, retail, finance, technology, legal, risk and compliance are shared across the subsidiaries as required.<sup>66</sup>
- ▼ **An outline of the experience of key personnel**<sup>67</sup> - namely the Directors, Acting Chief Executive Officer, Executive Manager Project Delivery, Executive Manager Scheme Operations and Executive Manager Risk and Compliance, which matched the role descriptions.
- ▼ **Curricula vitae of its key personnel** - provided to us in its licence application form and on 20 May 2019, which outlines previous experience (within Australia) in the water industry and the specific personnel nominated to the Glossodia scheme.
- ▼ The risk assessment provided to us in its licence application which demonstrated that business risks have been identified and would be managed.
- ▼ Evidence of Flow Systems' experience providing similar services to its subsidiaries for schemes including Pitt Town, Central Park, Discovery Point, Huntlee and North Cooranbong.
- ▼ Evidence of Flow Systems Operations' experience providing similar services to the Box Hill and Shepherds Bay schemes.

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<sup>64</sup> Flow Systems Operations Ownership Structure, as at 20 May 2019.

<sup>65</sup> Flow Systems Organisational Chart, May 2019.

<sup>66</sup> We consider the slight changes to the organisational chart from the application package that was consulted on does not impact our assessment that Flow Systems Operations has organisation capacity.

<sup>67</sup> Flow Systems Operations Network Operator Licence application Appendix 6.1.3.(a) Position Descriptions (Key personnel).

## Capacity to carry out those activities in a manner that does not present a risk to public health

- ▼ **Source water quality:** Non-potable water would be produced from sewage sourced from the Jacaranda Ponds development. It is predominantly residential, and the quality of the source water is not expected to fluctuate. Drinking water top-up for the recycled water treatment plant would be sourced from Sydney Water. Flow Systems Operations proposes to use trade waste agreements to control the quality of commercial waste discharged into its sewerage network if any retail or light commercial use is authorised in the future. We understand that management of non-potable water would be consistent with the AGWR.
- ▼ **Fit for purpose non-potable water quality:** Flow Systems Operations has demonstrated its capacity to treat sewage and provide fit for purpose non-potable water for the proposed uses, consistent with the requirements of the AGWR.
- ▼ **Cross connection mitigation measures:** Flow Systems Operations has identified appropriate controls to ensure the risks of cross connections are minimised. In addition, Flow Systems Operations proposes to conduct quality assurance inspections of non-potable water connections prior to commercial operation and would follow a specific notification protocol in the case of possible cross connection incidents. Flow Systems Operations indicated that the dual pipe reticulation systems would be designed and constructed in accordance to WSAA Codes<sup>68</sup> and the Plumbing Code of Australia<sup>69</sup>.
- ▼ **Backflow prevention:** Flow Systems requires all flow meters<sup>70</sup> to have appropriate backflow prevention.<sup>71</sup>
- ▼ **Non-potable water supply interruption:** Interruption to the provision of non-potable water could pose a limited risk to public health as it can be replaced by potable water top-up which supplements non-potable water supply. In situations of financial hardship, (ie where a customer does not pay its water bill), we understand that Flow Systems Operations would continue to provide non-potable water at a reasonable flow for basic health and hygiene purposes. Flow Systems, as the retail supplier, would give reasonable notice to its customers if it intended for Flow Systems Operations to restrict supply.
- ▼ **Sewerage service interruption:** Flow Systems Operations has demonstrated its capacity to mitigate this risk through its risk assessment,<sup>72</sup> sewerage network design and sewage management plan<sup>73</sup>. Flow Systems Operations has indicated that should short term interruption to sewerage services occur, storage would be available within the flow balance tanks, by having redundancy (duty/standby equipment) within the treatment trains and in the network. For larger interruptions, a tankering company on an emergency callout contract and skilled operators would manage the situation.<sup>74</sup>

<sup>68</sup> Available from <https://www.wsaa.asn.au/shop>

<sup>69</sup> National Construction Code Volume 3 Plumbing Code of Australia, 2019.

<sup>70</sup> 20mm and 25mm diameter meters have internal backflow check valves, so there is no need to install separate backflow prevention device. A separate backflow prevention device must be installed for each meter larger than 25mm in diameter.

<sup>71</sup> Refer to Flow Systems' drawings WAT-1854-FS and FSI-1000-FS, and [https://flowsystems.com.au/askus/Generic/Flow\\_Guide\\_for\\_installation\\_of\\_Meters.pdf](https://flowsystems.com.au/askus/Generic/Flow_Guide_for_installation_of_Meters.pdf)

<sup>72</sup> Glossodia Scheme Risk Register, 19 July 2018.

<sup>73</sup> Revision 4, May 2017.

<sup>74</sup> Glossodia Scheme Risk Register, 19 July 2018.

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- ▼ **Risk management method:** we reviewed Flow Systems Operations' preliminary risk assessment<sup>75</sup> and consider that Flow Systems Operations has demonstrated its capacity to identify and manage hazards and risks of the non-potable water and sewage components of the proposed scheme, to acceptable levels of risk, and would have in place reasonable control and mitigation measures.

### **Appropriate arrangements with respect to insurance**

- ▼ **icare review:** As part of its review, icare examined Flow Systems Operations' scope of work, the risk assessment, insurance coverage in the areas of professional indemnity, public liability and product liability, and by checking the insurance certificates of currency that both Flow Systems and Flow Systems Operations hold. In addition, icare also reviewed the product disclosure statements for each insurance certificate, and examined the financial rating of the various underwriters providing the insurance.

Further, icare considered the limit of indemnity for public and products liability, and the limit of indemnity for professional liability (financial loss arising from a wrongful act) for both construction and operation phases as appropriate for the Glossodia scheme.

- ▼ **Insurance information:**
  - Flow Systems Operations and Flow Systems are named on each relevant insurance certificate
  - Combined Business Liability Insurance, including public and products liability and professional indemnity (financial loss arising from a wrongful act) insurance policies
  - Workers compensation insurance policy
  - Risk management assessment and control plan.

We note that Flow Systems also holds other insurances including construction insurance, industrial special risks insurance and forefront portfolio insurance.

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<sup>75</sup> Glossodia Scheme Risk Register, 19 July 2018.



## C Flow Systems Operations ownership structure and related licensees

**Table C.1 Flow Systems' subsidiaries and their licence schemes**

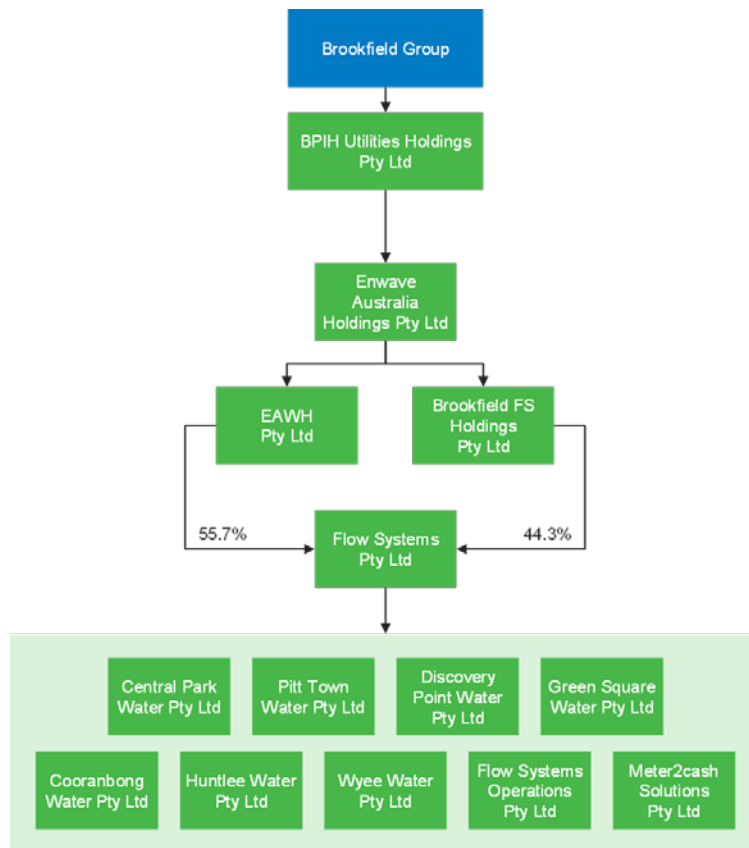
| Subsidiary                         | Scheme   | Network operator's licence | Licensed for    |                 |                |
|------------------------------------|--|----------------------------|-----------------|-----------------|----------------|
|                                    |  |                            | DW <sup>a</sup> | NP <sup>b</sup> | S <sup>c</sup> |
| Pitt Town Water Pty Ltd            | Pitt Town scheme, Pitt Town, Sydney                            | 10_014                     |                 | ✓               | ✓              |
| Central Park Water Factory Pty Ltd | Central Park development, Chippendale, Sydney                  | 12_022                     | ✓               | ✓               | ✓              |
| Discovery Point Water Pty Ltd      | Discovery Point development, Wolli Creek, Sydney               | 13_025                     | ✓               | ✓               | ✓              |
| Wye Water Pty Ltd                  | Wye residential scheme, Wye, Lake Macquarie                    | 14_026                     | ✓               | ✓               | ✓              |
| Huntlee Water Pty Ltd              | Huntlee residential scheme, North Rothbury, Hunter Valley      | 15_030                     | ✓               | ✓               | ✓              |
| Green Square Water Pty Ltd         | Green Square Town Centre, Sydney                               | 15_031                     |                 | ✓               |                |
| Cooranbong Water Pty Ltd           | Cooranbong residential development, Cooranbong, Lake Macquarie | 15_033                     | ✓               | ✓               | ✓              |
| Flow Systems Operations Pty Ltd    | Box Hill North residential development, Hills Shire Council    | 16_037                     |                 | ✓               | ✓              |
| Flow Systems Operations Pty Ltd    | Shepherds Bay development, Meadowbank, City of Ryde Council    | 17_042                     | ✓               | ✓               | ✓              |

**a** Drinking water infrastructure

**b** Non-potable water infrastructure

**c** Sewerage infrastructure

**Figure C.1 Flow Systems group ownership structure**



**Note:** As at 13 May 2019

**Data source:** Flow Systems email 20 May 2019.

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## D Assessment of Flow Systems Operations' Review of Environmental Factors for the Glossodia scheme

13 December 2018

630.12605-L02-v0.1.docx

Independent Pricing and Regulatory Tribunal  
Level 15  
2-24 Rawson Place  
Sydney NSW 2000

**Attention: Robert Aposhian**

Dear Robert

### Review of revised REF for Water Industry Infrastructure at Glossodia Subdivision

This letter provides the findings of the review of the Review of Environmental Factors (REFs) titled:

- REF for Proposed Sewage and Recycled Water Reticulation Systems, Glossodia, New South Wales (10 December 2018), prepared by RPS Australia East Pty Ltd on behalf of Flow Systems Operations Pty Ltd (herein referred to as the 'Reticulation REF').
- REF for Proposed Local Water Centre, Glossodia, New South Wales (10 December 2018), prepared by RPS Australia East Pty Ltd on behalf of Flow Systems Operations Pty Ltd. (herein referred to as the 'LWC REF').

The works covered by the REFs are referred to in this assessment as 'the proposed development'.

Previous versions of the REFs have been reviewed by consultants engaged by IPART, including SLR Australia who provided comments on the REFs on 2 October 2018 and 4 December 2018.

The purpose of this letter is to confirm that the revised REFs (dated 10 December 2018) are considered to have adequately addressed the issues raised and recommendations made in our previous reviews. SLR therefore considers the revised REFs to meet the requirements for determination under the *Environmental Planning and Assessment Act 1979* (EP&A Act) and have taken into account to the fullest extent possible all matters affecting or likely to affect the environment associated with the proposed development.

If you have any queries about this, please contact me on 0402 279 129.

Yours sincerely



STEVEN CRICK  
Principal - Environmental & Social Impact Assessment

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E Review of Environmental Factors for Proposed  
Sewage and Recycled Water Reticulation System  
for the Glossodia scheme

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## F Review of Environmental Factors for Proposed Local Water Centre for the Glossodia scheme

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## G Summary of submissions

**Table G.1 Flow Systems Operations application for a network operator’s licence for the Glossodia scheme – Comprehensive summary of stakeholder submissions**

| Agency     | Summary of Submission  | Our response   |
|------------|--|--|
| NSW Health | NSW Health supported Flow Systems’ licence variation application provided that matters raised by NSW Health are addressed and that NSW Health is consulted by IPART during the detailed recycled water risk assessments, technology assessments and the development of a management plan for recycled water.   | Our current practices would ensure that NSW Health is consulted by IPART and Flow Systems Operations at various stages throughout the development and auditing of the licence’s management plans.  |
|            | NSW Health requested it be consulted by IPART following the final compliance audit and before retail supply commences to ensure that all relevant public health matters have been considered. It also requested that Flow Systems Operations develop an Incident Notification Protocol for incidents   | Our current practices would ensure that NSW Health is consulted by IPART and Flow Systems Operations at various stages throughout the development and auditing of the licence’s management plans that include incident management. We are recommending a standard licence condition as detailed in section 5.3 that requires the licensee to carry out the activities authorised by the licence in compliance with any requirements of NSW Health that IPART has agreed to and are notified of in writing. This includes developing an Incident Notification Protocol in consultation with NSW Health. |
|            | NSW Health noted that the application did not clearly indicate how non-potable water would be managed during periods of wet weather or before the retail supply commences.   | We note that in its licence application, Flow Systems Operations propose to construct balance tanks to store non-potable water during periods of wet weather. Flow Systems has a Recycled Water Irrigation Management Plan <sup>76</sup> that outlines irrigation management practices consistent with the AGWR. Irrigation of public open spaces would be managed by Flow Systems Operations until construction is finished. Storage within the reticulation system and storage tanks is discussed in the Scheme Management Plan <sup>77</sup> and section 5.3 of this report.                        |
|            | NSW Health recommended the risk assessment should be updated to reflect adequate information on the source water and further characterisation of the source water quality is undertaken as recommended by the AGWR and <i>Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 2): Stormwater Harvesting and Reuse (2009)</i> . | Flow Systems Operations withdrew the request to use stormwater as a source for non-potable water after the consultation period closed, therefore the risk assessment does not need updating. Flow Systems Operations confirmed that the sources for non-potable water would be sewage and drinking top-up only (and do not include stormwater). <sup>78</sup>  |

<sup>76</sup> FS-WAT-NSW-PL-OPS-2299, Version 3, June 2018.

<sup>77</sup> GL-WAT-AUS-PL-OPS-1811, Section 4.4 System Redundancy, Version 3, July 2018

<sup>78</sup> Further information provided by Flow Systems Operations to IPART on 30 June 2016.



| Agency       | Summary of Submission   | Our response   |
|--------------|---|--|
|              | NSW Health noted that the risk from consumption of non-potable water due to cross-connections has been inconsistently addressed and there was confusion as the application referred to both Hunter Water and Sydney Water.  | Flow Systems Operations amended its licence application to remove references to Hunter Water, and as noted above would have appropriate controls in place to mitigate the possibility of cross-connections in its infrastructure. We determined that Flow Systems Operations and Flow Systems had demonstrated its capacity to mitigate the risk of inappropriate end use through its guidance to customers on its existing non-potable water schemes. |
|              | NSW Health noted that the Log Reduction Values <sup>79</sup> achieved by different process units are inconsistent in the application.   | Flow Systems Operations amended its licence application to remove inconsistencies.   |
|              | NSW Health expects that the audit process will confirm the adequacy of the recycled water management plan and compliance with the AGWR.   | We would audit the adequacy of the licence plans prior to Flow Systems Operations commencing commercial operation.   |
|              | NSW Health recommends that verification monitoring of the non-potable water system be required at the frequency recommended by the AGWR. The Public Health Unit and Flow Systems should be notified immediately of any verification results that are outside of the AGWR values and in accordance with NSW Health protocols | Our current practices, as agreed in writing between NSW Health and IPART, <sup>80</sup> ensure that NSW Health is consulted by IPART at various stages throughout the development and auditing of the licensee's management plans. Further, licence holders are required to notify incidents in accordance with the WIC Regulation, <sup>81</sup> including incidents that threaten, or could threaten, water quality, public health or safety.        |
|              | NSW Health noted that IPART has required Flow Systems to exclusively use the term 'recycled water' rather than 'refined water', in line with a request by NSW Health. The term 'refined water' appears in the current application.  | We have requested Flow Systems refer exclusively to 'recycled water' rather than 'refined water' in all documentation.   |
| Sydney Water | Sydney Water will provide a water connection to the property owner of the lot that the Local Water Centre <sup>82</sup> will sit on, which will be the developer and not FSO. This will have to be managed under an agreement between the property owner and FSO.   | Flow Systems Operations confirmed that the developer is currently engaged with Sydney Water to arrange drinking water services for the development. <sup>83</sup>  |

<sup>79</sup> Reduction in pathogen concentrations in recycled water are calculated using log reduction values. The log reduction value required for each end use of recycled water is based on the likely exposure volumes ingested from the use of the water.

<sup>80</sup> IPART and NSW Health have a responsibilities protocol, last updated July 2018.

<sup>81</sup> *Water Industry Competition (General) Regulation 2008*, Schedule 1, clause 1(2).

<sup>82</sup> Flow Systems Operations' application refers to the recycled water plant as the "Local Water Centre".

<sup>83</sup> Further information provided by Flow Systems Operations to IPART on 28 September 2018

| Agency | Summary of Submission   | Our response   |
|--------|---|--|
|        | <p>Sydney Water noted that currently there is no drinking water connection to the site; the developer needs to progress this. Therefore they cannot comment on ability for the temporary cross connection to drinking water until recycled water becomes available.</p>   | <p>With their application, Flow Systems Operations submitted a confirmation of bulk water availability in a report prepared for the purposes of a planning application by the developer.<sup>84</sup> The developer will have to apply for connection to Sydney Water's drinking water network through a section 73 application, to confirm that there is adequate water to service the scheme.</p>  |
|        | <p>Sydney Water's view is that Flow Systems should be declared a monopoly supplier for the Glossodia development.</p> <p>Sydney Water has no plans to provide wastewater services to the development as it is not a development listed in its Growth Servicing Plan 2014-19. It would be uneconomical for Sydney Water to service an individual customer if they did not want to be serviced by Flow Systems. Sydney Water believe that under any standard market definition and competition assessment, Flow Systems would be deemed a monopoly supplier of services within the localised market it is supplying.</p> <p>Sydney Water strongly believes that IPART should declare the sewerage and recycled water services provided to customers within the Development as being a monopoly service. This is required to ensure that customers are protected from any exercise of market power.<sup>85</sup></p> | <p>In its application, Flow Systems Operations states that Flow Systems, as the retail supplier if the variation is granted, has a price parity policy with the local incumbent water authority (ie, Sydney Water). It also indicates that recycled water and wastewater fees and charges are reviewed annually and matched to the incumbent. This is discussed in section 5.1.1 of the report.</p> <p>The Minister can declare a monopoly supplier at any time. This declaration does not have to be made at the time a licence is granted or varied. If the Minister declares a monopoly supplier, the Minister may then refer the monopoly services to us for price regulation.<sup>86</sup> We note that the Minister has not made any such declaration or referral to date.</p> |
|        | <p>Sydney Water raised concerns regarding competition and the potential for adverse financial implications for customers.</p>   | <p>This is discussed in our assessment of Flow Systems Operations application to vary their retail licence to include the Glossodia scheme. If the Minister grants the retail licence variation, we consider that consumers generally will continue to be protected in relation to the activities licensed, the licence variation will promote competition in the provision of the relevant services and the potential risks for adverse financial implications for small retail customers will be adequately mitigated in relation to the activities to be licensed.</p>  |

<sup>84</sup> Prepared by Urbis for Celestino, Final version, 9 April 2010

<sup>85</sup> Submission from Sydney Water, 17 August 2016.

<sup>86</sup> Determination of the pricing and/or periodic review of the policies. WIC Act, section 52(1).

| Agency | Summary of Submission  | Our response  |
|--------|--|---|
|        | Sydney Water expressed concern that the risk assessment does not adequately address the proposed sources of water in the non-potable water scheme.   | Flow Systems Operations withdrew the request to use stormwater as a source for non-potable water after the consultation period closed, therefore risk assessment does not need updating. Flow Systems Operations has confirmed that the sources for non-potable water would be sewage and drinking top-up only (and do not include stormwater). <sup>87</sup>   |
|        | Sydney Water noted that a high risk backflow containment device must be installed at the property boundary, or directly after the master water meter. A direct connection is not permitted. Sydney Water notes that this a requirement for the property owner and not Flow Systems Operations directly.  | Flow Systems Operations' has acknowledged Sydney Water's observations and provided more detailed information subsequent to the consultation. Further, if a network operator's licence is granted, it is a requirement of the WIC Regulation that the licensee must ensure that the design, construction and operation of water industry infrastructure would have regard to any publicly available standards or codes. We consider these matters in section 5.3.1 and 5.4.  |
|        | Sydney Water noted that the proposed backflow prevention device (registered air-gap) used to top-up a non-potable water supply tank must be registered. Further, Sydney Water requests that a high hazard backflow containment device be installed at the property boundary, or directly after the master drinking water meter for the site (property where the recycled water treatment plant sits on). | These backflow prevention controls are a requirement of AS/NZS 3500.1 <sup>88</sup> and the Plumbing Code of Australia. <sup>89</sup> Flow Systems Operations indicated that the dual pipe reticulation systems would be designed and constructed in accordance to WSAA Codes <sup>90</sup> and the Plumbing Code of Australia. Further, if a network operator's licence is granted, it is a requirement of the WIC Regulation that the licensee must ensure that the design, construction and operation of water industry infrastructure would have regard to any publicly available standards or codes. <sup>91</sup> |
|        | Back up discharge to Sydney Water's sewage is not available for this site. Sydney Water noted that the interim solution to tanker to a registered waste management facility may ultimately result in Sydney Water receiving the sewage. This would mean little or no capacity reduction in Sydney Water's infrastructure capacity.   | Flow Systems Operations has confirmed that the interim tankering of sewage would only be required during the construction of the first 200 lots, estimated to be up to one year depending on lot sales. <sup>92</sup>   |
|        | Sydney Water questioned some of the design assumptions made when preparing the water balance and noted that they use different planning assumptions.   | Flow Systems Operations noted in their information request that they engaged a specialist with extensive experience in water balance development and used their database of actual demand data across multiple new subdivision rather than rely on data sourced from older large catchments. <sup>93</sup>  |

<sup>87</sup> Further information provided by Flow Systems Operations to IPART on 30 June 2016.

<sup>88</sup> Compliance with AS/NZS 3500.1 is required through compliance with the Plumbing Code of Australia (the primary regulatory code).

<sup>89</sup> National Construction Code Volume 3 Plumbing Code of Australia, 2019.

<sup>90</sup> Available from <https://www.wsaa.asn.au/shop>

<sup>91</sup> WIC Regulation, Schedule 1, section 3(c).

<sup>92</sup> Further information provided by Flow Systems Operations to IPART on 28 September 2018 and 20 May 2019.

<sup>93</sup> Further information provided by Flow Systems Operations to IPART on 28 September 2018 and Water Balance Report Prepared by Kinesis for Flow Systems, Version 0.3, 11 April 2016.

| Agency | Summary of Submission  | Our response   |
|--------|--|--|
|        | Sydney Water recommended that in the case of a last resort event, the minimum requirement for all infrastructure, including the water recycling plant, should be based on WSAA Codes and standards to minimise potential future last resort risks and costs.   | Flow Systems Operations has informed us that all water and sewerage infrastructure in the Glossodia scheme would be designed and constructed in accordance with the Sydney Water edition of the WSAA Codes. <sup>94</sup>  |
|        | Sydney Water's position is that a scheme operator should demonstrate a suitable level of financial security before scheme approval to reduce likelihood and impact of a Last Resort event.   | IPART's specialist financial assessor noted that Flow Systems Operations' Glossodia scheme would generate positive cash flows and would be financially viable in the medium and long term, resulting in a low risk to continuity of service if a network operator's licence is granted. This is discussed in section 4.2.2 of this report.   |
| EPA    | EPA confirmed that the scheme does not require an approval (or licence) under the POEO Act as the plant does not exceed the processing capacity threshold.   | Noted.   |
|        | EPA confirmed that Hawkesbury City Council is the appropriate regulatory authority for environmental issues.   | Noted.   |
|        | EPA noted that the scheme operator would need to ensure careful and ongoing monitoring of treated water for chemical impurities, to monitor build up over time (ie, salt and disinfection by-products); and to not exceed relevant guidelines or cause incremental accumulation in either soils or waters.   | We note that responsibility for monitoring, irrigation management and scheduling will pass to Hawkesbury City Council for public open spaces. <sup>95</sup>  |
|        | The submission from EPA also mentioned that odour emissions from the recycled water treatment plant (specifically hydrogen sulphide) can be problematic unless appropriate odour controls are designed, installed and operated. The submission suggested Flow systems Operations follows the environmental guideline <sup>96</sup> to mitigate odour impacts. EPA's experience is that similar facilities can experience hydrogen sulphide odour emissions (H <sub>2</sub> S). | The recycled water treatment plant REF considered air quality and odour impacts, and has proposed operational mitigation measures using an activated carbon odour control unit and vent stack for the building that houses the treatment plant. The reviewer of the REF is satisfied that the mitigation measure is adequate provided it is implemented. All of Flow Systems' water recycling facilities are operated with this type of engineered odour control system and the plants are built on lots with appropriate zoning. <sup>97</sup> Therefore, we consider odour impacts would be addressed and mitigated in the scheme. |

<sup>94</sup> Further information provided by Flow Systems Operations to IPART on 28 September 2018.

<sup>95</sup> Public open space within the Jacaranda Ponds development will be gifted to Hawkesbury City Council as detailed in the planning agreement between Celestino and Hawkesbury City Council.

<sup>96</sup> *Technical Framework – Assessment and Management of Odour from Stationary Sources in NSW*, available at: [www.epa.nsw.gov.au/resources/air/20060440framework.pdf](http://www.epa.nsw.gov.au/resources/air/20060440framework.pdf)

<sup>97</sup> Where a sewage treatment plant is proposed within a SP2 zone, the draft NSW Best Practice Odour Guideline recommend the plant location is such that odour standards are met at the boundary. Odour modelling is used to determine if that is achieved.

| Agency                       | Summary of Submission   | Our response   |
|------------------------------|---|--|
|                              | If licence is granted, EPA recommends the licence include conditions relating to management practices around irrigation with recycled water. These include monitoring of surface water and groundwater, soils (moisture and chemical analysis) and offsite impacts.   | We consider that no additional conditions are required. The issues are addressed in Flow Systems' Irrigation Management Plan <sup>98</sup> and the Scheme Management Plan <sup>99</sup> . We recommend the Minister imposes a licence condition to ensure proposed mitigation measures are implemented as detailed in Table 4.6.   |
|                              | EPA recommended that the <i>Environmental Guidelines: Use of Effluent by Irrigation</i> <sup>100</sup> should be followed, in relation to the proposed irrigation of effluent and its potential impacts in soils, and that the operator should ensure ongoing monitoring of treated water.  | Flow Systems Operations, in response to our request for information, <sup>101</sup> stated that recycled water irrigation would be managed in accordance with the Flow Systems Irrigation Management Plan <sup>102</sup> and the Scheme Management Plan <sup>103</sup> . Public open space would be constructed and maintained by the developer before being dedicated to Council. Council would become a customer of Flow Systems for recycled water supply (the supply agreement is yet to be finalised). The Scheme Management Plan lists environmental activities and controls identified following a Land Capability Assessment for the Glossodia scheme. The Land Capability Assessment considered <i>Environmental Guidelines: Use of Effluent by Irrigation</i> and the AGWR. We are sufficiently satisfied that Flow Systems Operations has addressed the recommendations by EPA. |
|                              |   | We would audit the adequacy of the proposed controls (including treatment and monitoring), as captured in the licence plans prior to Flow Systems Operations commencing commercial operation.  |
| DPE                          | The DPE confirmed that Council is the appropriate consent authority under Part 4 of the EP&A Act.   | Noted  |
|                              | The DPE confirmed that Flow Systems Operations, Flow Systems, and Celestino have not been subject to enforcement action under the EP&A Act.   | Noted  |
| Minister for Lands and Water | The Minister stated that under the <i>Water Management Act 2000</i> (WMA), water extractions from a water source must be covered by an appropriate water access licence and approval, a basic landholder right, or a relevant exemption. The Minister confirmed that the taking of treated effluent falls outside the definition of the State's water rights in the WMA, and hence a licence or approval is not required. | Noted  |

<sup>98</sup> FS-WAT-NSW-PI-OPS-2299, Revision 3, 18 June 2018.

<sup>99</sup> GL-WAT-AUS-PL-OPS-1811, Revision 1, 19 April 2016.

<sup>100</sup> *Environmental Guidelines: Use of Effluent by Irrigation*, available at: [www.epa.nsw.gov.au/resources/epa/effguide.pdf](http://www.epa.nsw.gov.au/resources/epa/effguide.pdf)

<sup>101</sup> Letter from Flow Systems, Response to IPART's Request for Information from 15 Sept. 2016, 16 July 2018

<sup>102</sup> FS-WAT-NSW-PI-OPS-2299, Revision 3, 18 June 2018.

<sup>103</sup> GL-WAT-AUS-PL-OPS-1811, Revision 1, 19 April 2016.

| Agency | Summary of Submission  | Our response   |
|--------|--|--|
|        | <p>The use of stormwater to augment non-potable water supply may require a licence or approval under the WMA depending on the volume and the size of the area from which it is captured.</p> | <p>Flow Systems Operations withdrew the request to use stormwater as a source for non-potable water after the consultation period closed, therefore risk assessment does not need updating. Flow Systems Operations has confirmed that the sources for non-potable water would be sewage and drinking top-up only (and do not include stormwater).<sup>104</sup></p> |

<sup>104</sup> Further information provided by Flow Systems Operations to IPART on 30 June 2016.

