

**PUBLIC LIGHTING
APPROVALS NETWORK**
Assessment and approvals
process for product
suppliers



Prepared for

Lighting Suppliers and Australia Public Lighting Approval Authorities

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About this document

This document provides suppliers of public lighting products with an overview of the processes and requirements involved in the assessment of their products as part of the Public Lighting Approvals Network (PLAN).

PLAN is a network of Australian public lighting approval authorities that utilise a centralised system for the assessment of new public lighting products and the sharing of information about these products. PLAN is facilitated by Ironbark Sustainability.

For further questions relating to the Public Lighting Approvals Network, please contact PLAN@realaction.com.au, or Ironbark Sustainability on 1300 288 262.

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1 About PLAN

The Public Lighting Approvals Network (PLAN) is a network of Australian public lighting approval authorities (typically Distribution Network Service Providers (DNSPs) and main road authorities) that utilise a centralised system for the assessment of new public lighting products and the sharing of information about these products.

PLAN streamlines what was otherwise a time consuming and repetitive process for approvals bodies as well as lighting product suppliers. Where lighting suppliers in the past would be required to have their product assessed by each individual approval body, a single shared assessment is now generated and distributed to PLAN members for their consideration.

PLAN is facilitated by Ironbark Sustainability (Ironbark), who carry out both day-to-day administration of the Network and detailed Independent Technical and Market Assessment (ITMA) of new public lighting products.

Ironbark has sought and obtained National Association of Testing Authorities (NATA) accreditation as an Inspection Body, which means that we have been assessed by NATA and found to comply with the requirements of ISO/IEC 17020 (the International Standard governing the requirements of inspection bodies) and to be technically competent to inspect street lights against those requirements of AS/NZS 1158.6 outlined in our Scope of Accreditation. As such, Ironbark can provide the NATA-endorsed Inspection Report required in support of any ITMA submissions.

This document provides lighting suppliers with a detailed summary of the process involved in submitting a new product for assessment through PLAN.

2 What products can be submitted?

Currently PLAN assesses and reports upon the following products.

- Luminaires
- Photo Electric Cells
- Lamps/light modules

If you wish to submit a product not listed above please contact Ironbark to discuss.



3 The PLAN assessment process

The typical process for assessing lighting products is illustrated in Figure 1 below and a more detailed description of each step of the process is outlined on the following pages.

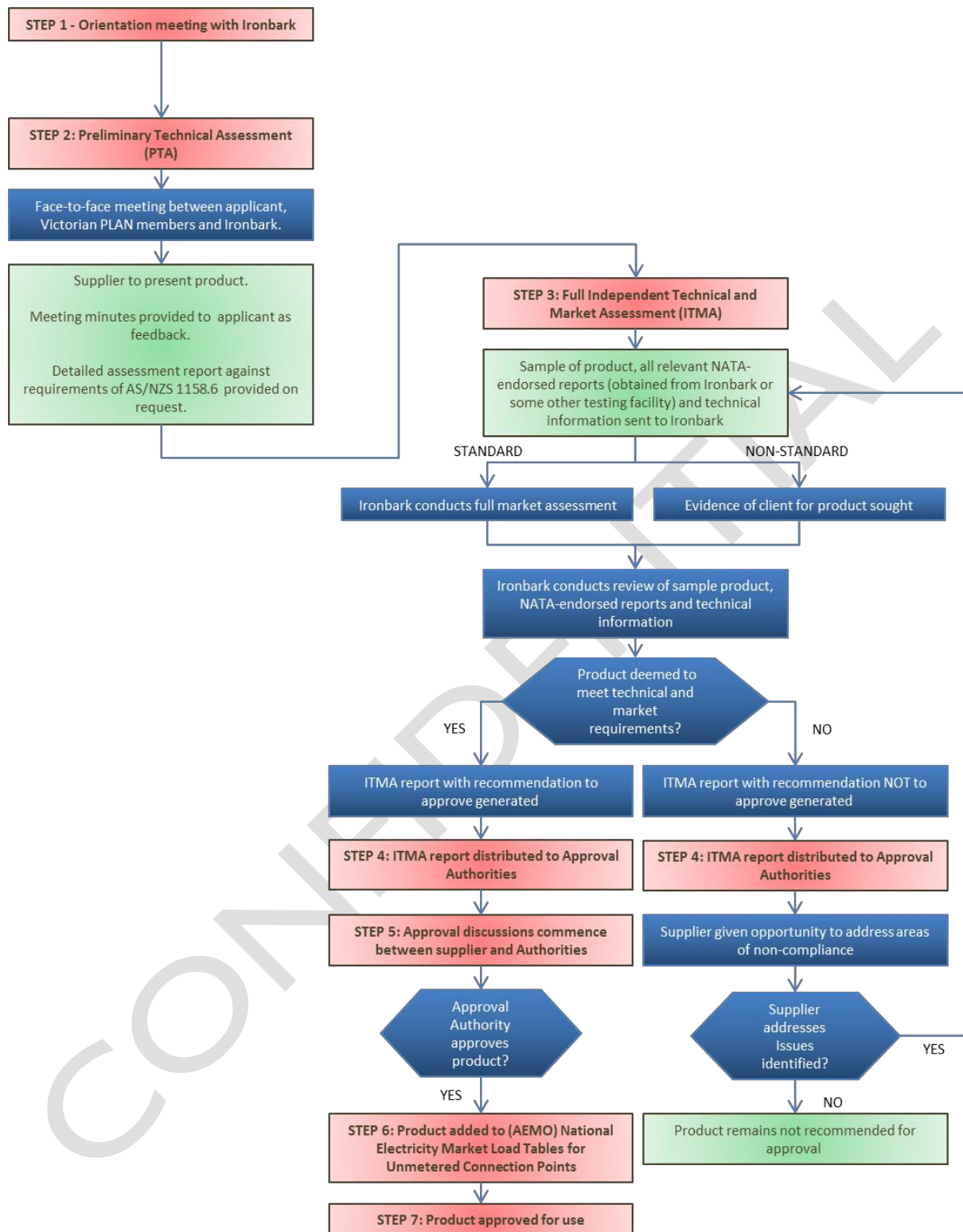


Figure 1 - The PLAN assessment process

3.1 STEP 1: Orientation meeting

Step 1 of the approvals process will involve a one-hour orientation meeting between the supplier and Ironbark to discuss general details of the application and assessment process. The intent of this stage is to help the supplier decide if they are ready to make an application, what type of assessment is required (e.g. is a luminaire to be submitted as a non-standard or standard product), and also to discuss timeframes.

Ironbark will provide general advice around key market information, energy usage and photometric performance, which will allow suppliers to determine whether to pursue approval of their product. As part of this orientation, Ironbark Sustainability offers spacing assessments and a general assessment of the economic viability of street lighting products to determine if the pursuit of approval is practical for a lighting supplier. It is, however, common for suppliers to already possess an understanding of spacing and economic requirements for street lighting in Australia. As such, spacing and economic analysis is optional.

Prior to the orientation meeting, suppliers will need to:

1. Submit an application form (supplied on request by contacting PLAN@realaction.com.au)
2. Pay the application fee

The application fee will cover costs associated with initial correspondence as well as a broad determination of the suitability of the product in the context of the current Australian market.

As part of the application process the product can be submitted for assessment as:

1. Non-standard (decorative) lighting (in which case only the technical requirements of an ITMA need to be met provided a client who wants to install the lights has been confirmed); or
2. Standard (non-decorative) lighting (in which case both the technical and broader market requirements of an ITMA need to be met)



If a manufacturer is unsure which option to pursue – this can be reviewed during the subsequent assessment process and a decision made as the project proceeds.

Once an application has been submitted suppliers are contacted by Ironbark to organise a time for the orientation meeting.

At the end of the orientation meeting Ironbark and individual suppliers will need to make a realistic decision on whether to progress a product through the assessment process. For standard lighting products, the key factors that determine whether to progress to the next stage of assessment are:

- Does the product provide a benefit to the market? That is, does it improve on current products in terms of cost (operating) or energy efficiency, or does it increase competition for a particular product type?
- Does the product provide suitable spacing (photometric performance) to replace one or more of the commonly used HID street lights used across Australia?

If deemed suitable the product will be accepted into the formal assessment process.

3.2 STEP 2: Preliminary Technical Assessment (PTA)

The Preliminary Technical Assessment (PTA) is a visual assessment that gives an indication of the likelihood that a product will meet the standards and the requirements of PLAN members and consists of two parts:

1. A face-to-face meeting with DNSPs (Victorian only) to assess their requirements for the luminaire
2. Detailed assessment of the luminaire/s against the requirements of AS/NZS 1158.6 (note this is not a NATA assessment) (OPTIONAL)

The face-to-face meeting (step 1 above) is between the supplier, representatives from Victorian PLAN members and Ironbark Sustainability. Suppliers will be given 20 minutes to present their product, after which they will be asked to leave the room. The luminaire(s) will be left with the PLAN members for a minimum of 1 day for further analysis as part of this process. Written feedback in the form of brief minutes will be provided to the supplier after the meeting. It is recommended suppliers also take their own notes.



The detailed assessment of the product against the requirements of AS/NZS 1158.6 (step 2 above) provides a detailed report to the supplier and is optional.

Undergoing NATA-approved testing is an expensive and time-consuming process, therefore this component of the PTA seeks to ensure that time and money is not wasted on a product that is clearly will not meet requirements. The PTA will not be able to provide the detail that laboratory testing can provide and is designed for guidance only.

The results of the PTA identify where the product will not meet the requirements of PLAN members and/or the Standard, with advice on what should be done to meet these requirements.

3.3 STEP 3: Independent Technical and Market Assessment (ITMA)

Following the PTA, the supplier will be required to submit the product for a full Independent Technical and Market Assessment (ITMA). A completed ITMA (that recommends the product for approval) provides a validation process to confirm relevant technical performance and market interest in new public lighting products prior to consideration of approval of the product by local approval authorities.

As outlined above, for standard lighting products the market assessment involves an assessment of whether or not the product will provide a benefit to the market. This takes into account the relative operating costs and energy efficiency of the product, whether or not the product would improve the level of competition in a given category of lighting, and also what type of incumbent lighting product the new product seeks to replace.

For non-standard lighting products, the market assessment consists of confirming that there is an existing client committed to using the product.

For both standard and non-standard lighting products, the technical assessment part of the ITMA is largely the same (spacing for non-standard lighting products will be assessed against already approved non-standard lighting products). This involves an analysis of the photometric performance of the product, and also seeks confirmation that the product meets the requirements of the AS1158.6. To confirm this, NATA-endorsed (or equivalent) reports will be required. The supplier may obtain the required reports from Ironbark or some other NATA-accredited facility (refer to Section 4 for details of the NATA-accredited services Ironbark offers).

The following testing options are available:

Option A - Ironbark or the supplier to obtain all necessary NATA-endorsed (or equivalent) test/inspection reports from 3rd party test/inspection facilities;

Option B – Obtain NATA-endorsed Inspection Report from Ironbark.

3.4 STEP 4: Completed ITMA report distributed to Approval Authorities

Once an ITMA has been completed, a report will be distributed to each of the member approvals authorities within PLAN. The report will include a recommendation on whether Approval Authorities should consider the product for approval.

Note that at any stage throughout the assessment process Ironbark will provide status updates to PLAN members, including draft assessment reports, upon request. Assessment status will be communicated as:

1. Under evaluation; or
2. Not recommended for approval at this time; or
3. Recommended for approval.

As discussed above, Ironbark (having consulted with the supplier) may make a recommendation for a new light that is for:

1. Standard lighting
2. Non-standard (decorative) lighting



Once a product is recommended for approval by Ironbark and the reports are provided to the relevant Approval Authorities, then the final approval rests with the Authority. Ironbark's support helps sift through the many lights on the market and provide a short list to the Approval Authorities of the ones that are market ready.

A recommendation does not mean the light will be approved by some or all Approval Authorities.

At this stage different Approval Authorities will do different things depending on the product and their experience with the manufacturer.

For example, it is common for some Approval Authorities to approve the product based on Ironbark's recommendation. Other Approval Authorities will further review the product and recommend changes to it. Others will complete a test installation. All Approval Authorities will need to consider their purchasing, maintenance and replacement processes in order to bring a new product into their system.

All this can take some time and will vary by Approval Authority area and by product type.

3.5 STEP 5: Approval discussions commence between Supplier and Approval Authorities

Usually suppliers will follow the Ironbark reports up to clarify the next steps for each Approval Authority and to identify whether there is anything the supplier can do to support these steps.

Ironbark will sometimes follow up a particular recommendation with the Approvals Authorities. We may choose to do this if it is something of particular importance to the sector. This is not part of the normal process and is not something Ironbark will commit to doing.

3.6 STEP 6: Product added to (AEMO) National Electricity Market Load Tables for Unmetered Connection Points

If an Approval Authority decides to approve a particular product then the product's load value must be added to the National Electricity Market (NEM) Load Tables for Unmetered Connection Points. This will require the supplier to submit to AEMO a proposal that included a relevant unique description of the product, supporting statements from prospective users of the unmetered device (e.g. local government, distribution business, developer etc.) and evidence of the unmetered device load or energy consumption. Wherever possible, the unmetered device load should be derived from measurement tests conducted by a NATA accredited laboratory or overseas equivalent. Publication of the unmetered device load value in the NEM Load Table is not an approval to use the unmetered device and does not replace any obligation for an interested party, proposing to add an unmetered device to the NEM Load Table, to obtain appropriate approvals related to performance acceptance and acceptance of use for the unmetered device from Approval Authorities.

For further information about the NEM Load Tables go to www.aemo.com.au/

Furthermore Victorian Approval Authorities (i.e. this is not a requirement of AEMO) require this testing to be performed on at least 20 units of the product (testing must include PE cells). Suppliers may be able to provide acceptable advice that indicates a lower statistically valid sample is appropriate.

3.7 STEP 7: Product approved for use

The final step before a product can be installed and used by an Approval Authority is to establish maintenance charges for the particular product. The ITMA report will be used to inform any decisions. Maintenance charges are usually established in consultation with the supplier, are based on capital costs, parts lifespan and parts costs, and are reviewed periodically to take into account the actual in situ performance of the product.

4 Ironbark a NATA Accredited Inspection Body for Street Lighting

Ironbark has sought and obtained National Association of Testing Authorities (NATA) accreditation as an Inspection Body, which means that we have been assessed by NATA and found to comply with the requirements of ISO/IEC 17020 (the International Standard governing the requirements of inspection bodies) and to be technically competent to inspect street lights against those requirements of AS/NZS 1158.6 outlined in our Scope of Accreditation (SoA).

Our NATA accreditation has major implications for lighting suppliers, as we are now essentially a one-stop-shop for energy efficient lighting technology suppliers seeking approval. As an Accredited NATA Inspection Body Ironbark can now produce NATA-endorsed reports that cover all relevant clauses of AS/NZS 1158.6 as well as assess for the requirements of the DNSPs involved in PLAN.

Ironbark's SoA permits us to perform inspection/testing against the following clauses of AS/NZS 1158.6:

1.5, 1.6, 1.7, 2.2.1, 2.4.1, 2.4.2, 2.4.3, 2.5.1, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 3.7, 3.9, 3.10, 3.11, and 6.2.

Mainly due to the need for specialist testing equipment (e.g. vibration testing), testing against the following clauses of AS/NZS 1158.6 will be subcontracted:

2.2.2, 2.3, 3.8, 3.12, 3.13, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, and 6.3.

Ironbark will produce NATA-endorsed reports that cover all relevant clauses of AS/NZS 1158.6.

5 Further Information

If you have any questions relating the Public Lighting Approvals Network, the approvals process or Ironbark's NATA-accredited services described above, please contact Ironbark Sustainability on 1300 288 262 or PLAN@realaction.com.au.

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6 Appendix I – Further assessment details

6.1 Required information

6.1.1 PTA

For the PTA (Step 2 of the assessment process), the supplier will be asked to provide a 20 minute presentation of their product.

At the meeting the supplier must at a minimum provide the following:

- Basic product details including:
 - Product name
 - Product code
 - Manufacturer and country of origin
 - Power consumption
- A production sample of the product for inspection

6.1.2 ITMA

For an ITMA (Step 3 of the assessment process), the following information and materials will need to be provided by the supplier:

Option A

1. Production sample of luminaire fitted with PE cell;
2. The following NATA-endorsed test reports¹:
 - a. Compliance with all relevant clauses of AS/NZS 158.6
 - b. Vibration test report (to be carried out regardless of luminaire's weight)
 - c. Photometric test report (compliant with LM-79-08) and associated CIE/IES files
3. LED lumen maintenance report (compliant with LM-80-08 & TM-21);
4. Installation sheet/instructions booklet;
5. Product specification sheet with a full description of the luminaire and dimensional drawing;
6. Delivery timeframes for 1000+ units; and
7. Company history.

Option B

1. 7 production samples of the luminaire each fitted with PE cell. One sample must be provided with an Australian Standard mains plug (tagged and tested by a qualified electrician) to allow connection of the luminaire to a general power outlet;
2. Lamp (if applicable);
3. LED lumen maintenance report (compliant with LM-80-08 & TM-21);
4. Data/specification sheets for the following components:
 - a. Screws, nuts and washers (indicating the grade of steel used, if applicable);
 - b. Seals and gaskets (indicating silicone rubber material);
 - c. PE cell and base (indicating compliance with either BS 5972 or ANSI C136.10);
 - d. Control gear;

¹If any of these are not available, Ironbark can facilitate obtaining relevant testing and reports. An itemised quote can be provided for this service.

- e. Internal wiring (indicating compliance with AS/NZS 3191);
5. Approval certificates as evidence of the following:
 - a. That the luminaire body material consists of one of the following:
 - i. aluminium alloy complying with AS 1874 and having a copper content of not more than 0.3%;
 - ii. stainless steel of a grade greater than 304;
 - iii. copper, bronze or brass containing not less than 80% copper; or
 - iv. die-cast zinc.
 - b. That the visor has light transmission characteristics in the wavelength range 410nm to 760nm;
 - c. That acrylic visors comply with CI 2.5.2.2 of AS/NZS 1158.6 (if applicable);
 - d. That tempered glass visors comply with AS/NZS 2208 (if applicable);
 - e. That borosilicate glass visors comply with ISO 3585;
6. Installation sheet/instructions booklet;
7. Product specification sheet with a full description of the luminaire and dimensional drawing;
8. Delivery timeframes for 1000+ units; and
9. Company history.

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6.2 Details of assessment

6.2.1 PTA

The PTA involves a visual inspection of a production sample of the product by PLAN members and Ironbark's technical staff against the specific requirements of PLAN members, and the optional cross check of its design and specifications against the requirements of AS/NZS 1158.6.

6.2.2 ITMA

For a standard lighting product undergoing an ITMA, the assessment involves:

1. Verification that the product complies with all relevant aspects of AS 1158.6, as substantiated by the supplied NATA-endorsed reports (see Section 4 for details of the NATA-accredited services that Ironbark offers);
2. Verification that the photometric performance of the product makes it a suitable replacement for an existing lighting product;
3. Comparative analysis of the cost (operational) of the product with the incumbent product it seeks to replace;
4. Comparative analysis of the energy efficiency of the product with the incumbent product it seeks to replace; and
5. An assessment of the existing level of market competition for products of the same type.

For non-standard lighting products undergoing an ITMA, review involves:

1. Points 1 and 2 above (spacing will be assessed against already approved non-standard lighting products); and
2. Verification that a client for the product exists (e.g. letter of commitment).

6.3 Report generation

6.3.1 PTA

Following the PTA verbal feedback will be provided on the day, and brief minutes provided following the meeting.

A detailed assessment report assessing the product against the requirements of AS/NZS 1158.6 will be provided by Ironbark on request.

6.3.2 ITMA

For ITMAs, a report is generated that either recommends or does not recommend the lighting product for approval.

If the recommendation is that the lighting product not be approved, the reasons will be clearly outlined in the report. In the case of missing or inadequate information, Ironbark will provide the supplier with the opportunity to address these issues and resubmit the product for assessment. Similarly, where the reasons for the non-recommendation are technical or design related, then Ironbark will provide the supplier with advice on what can be done to address these issues, and the opportunity to have the product reassessed will be offered.

