



**GAS & PETROLEUM**  
**SECTOR SAFETY FORUM**  
A BYDA SUMMARY AND RECOMMENDATION

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# BACKGROUND

For those in construction, urban planning, and even the average resident eager to undertake a home renovation, Before You Dig Australia (BYDA) has for over 30 years been a cornerstone for safe excavation. BYDA connects the community with the essential safety guidelines and utility maps, acting as a vital bridge between the broader public, construction professionals, and utility owners. However, it's not just about providing maps and data. BYDA is committed to enhancing community safety, offering free education and critical safety updates that cater to professionals and laymen alike. The service ensures that anyone digging, from a major contractor to a homeowner, knows what's below, paving the way for safer planning and execution of projects.

Community and industry expectations as to how they access and use information are evolving. While BYDA has been distributing vital information mainly through PDF documents, the world in which we operate is rapidly moving towards a digital-first approach, especially as major contractors increasingly demand digital data for streamlined project execution. Industry professionals are leaning towards digital solutions, while everyday residential users are increasingly reliant on mobile apps and tools.

There is a growing trend of digital platforms, some showcasing underground assets through augmented reality. However, while such advancements are impressive, they come with risks, such as unreliable data, a lack of crucial safety guidance and the ability to engage with the asset owner directly. The current reliance by BYDA members on traditional PDFs is causing users to drift towards these alternative digital solutions, potentially compromising safety, making it imperative for BYDA to blend modern digital delivery without compromising safety.

BYDA is conducting a series of Sector Safety Forums to enable organisations to learn through deference to expertise, engaging the people who perform the work and who are best informed to make decisions and improve work systems.

BYDA aspires to consolidate the collective insights from the planned forums about the electricity, gas, water, and telecommunications sectors to create a road map for change and development. This undertaking aims to foster a more cohesive and collaborative working environment, with active participation from our members representing each industry group.

The overarching goal is to proactively shift our focus towards addressing significant issues such as digital plan exchange and enhancing information accessibility for all users. This will ensure that the industry keeps pace with users' changing needs and opens opportunities to drive better consistency within and across various industry groups. This will also mean that BYDA can support this collective change to continue supporting safety outcomes, not just today but well into the future.

Following on from the initial Electricity Sector Safety Forum held in May 2023, the Gas and Petroleum Sector Safety Forum was held over two and a half days in September (19th – 21st). The primary objective of this forum was to assess and recognise opportunities for comprehensively enhancing the following mission statements:

- How do we reduce near misses and incidents and work towards consistency with asset plans & messaging
- How do we explore systems and ideas used to engage third parties working around infrastructure to influence safety

# WHAT'S THE RISK?

Understanding risk is crucial for any industry, and when it comes to protecting utility networks, it's no different. The industry should be concerned that, as a collective across asset types, we do not fully grasp the extent and impact of damages to utility networks across the country. Without this knowledge, it's difficult for BYDA to take effective preventive measures in the areas of education and awareness, nor can we support members proactively in the area of damage prevention.

Furthermore, the digital age demands adaptability. If BYDA, a key service provider, doesn't transition to meet the broader industry digital needs, it risks becoming outdated and will face challenges in its credibility and functionality due to changing user expectations and the emergence of competing digital platforms.

Taking a global view, damage reporting in Australia is a step behind other countries. In the US, for instance, any damage to utilities is reported to the Common Ground Alliance (similar to BYDA). This systematic reporting culminates in the annual Damage Information Report, otherwise known as the DIRT report, a comprehensive document that provides insights on asset damages and recommendations for targeted interventions.

Regrettably, in Australia, there's no consistent drive for utilities to report damage data to BYDA. This has left us with a somewhat muddled picture of the true scope of damages. While BYDA has some data, it's only a snapshot. To put things in perspective, recent anecdotal data shared by participants during the Gas industry forum showed that there are about 500 asset damages monthly, or roughly 6,000 annually, within the Gas distribution networks occurring across the country. This clearly indicates daily disruptions to the supply of essential services in communities, as well as posing a tangible risk to worker safety and potentially leading to costly repairs.



BYDA has flagged this as a critical issue for the construction sector. Data indicates that a significant 70% of damages happen when the necessary checks with BYDA aren't done before work commences. This emphasises the urgency for BYDA to ensure the information asset owners provide through the system is clear, concise, and consumable. Feedback from the users of the BYDA service suggests that there's a diminishing trust in the data provided by members via BYDA. This mistrust potentially fosters a more lax attitude towards excavation protocols, escalating safety risks in the field. This trend, if unchecked, could have serious implications for safety standards and best practices.

### ***Risk of failing to evolve to digitisation***

The results from a recent survey of 200 high-volume users of the BYDA referral service are clear and pressing: there's an urgent need for change. A significant majority of respondents expressed a demand for BYDA to shift to digital information. Yet, alongside this demand, there's rising unease about the accuracy and consistency of plans provided. Now, with competing apps introducing digital and augmented reality views of assets, BYDA is facing imminent digital disruption in the Australian landscape.



The current scenario not only threatens BYDA's status as a trusted information provider but also places users in a precarious position of prioritising the ease of digital information over critical safety messaging and access to asset owner support. This isn't just about adapting to the digital age; it's about the potential fragmentation of services, loss of transparency, and the risk of uninformed activities around assets due to outdated and restrictive formats like PDFs.

If BYDA doesn't address the concerns of plan accuracies, complex and repetitive responses and the inefficiencies tied to old formats, we're staring at a system whose future viability is in jeopardy. A diminished engagement from members in the change process only compounds the problem, making BYDA more vulnerable to the rise of new digital competitors and open-source data providers.

The implications of remaining stagnant are profound. Asset owners stand to lose visibility on activities near their assets, leading to a reduced ability to relay crucial safety protocols. This paves the way for a surge in asset damages, potential injuries, and an erosion of operational efficiency. Now, more than ever, it is imperative for BYDA and its members to embrace change proactively, ensuring that the system's integrity, efficiency, and key focus on safety are not compromised.

# BARRIERS TO CHANGE FOR THE GAS & PETROLEUM SECTOR

It is worth noting that the key barriers to change identified by the Gas and Petroleum sectors are very much aligned with the barriers identified by the Electricity sector. This indicates that shared learning can be applied and that BYDA can be leveraged as a key collaborator across the industry sectors.

- Diverse risk profiles arise due to specific characteristics of gas or petroleum asset owners. Factors like network types, density, volume, and locations lead to different levels of risk tolerance and exposure. Introducing these details to various legal perspectives further alters the risk management approach and hinders change.
- Inconsistent language and risk treatment approaches are evident. The terminology and risk strategies differ not only between Gas and Petroleum Distribution and Transmission networks but also across different states due to differing legislation.
- Limited data and reporting on controls hamper the ability to pinpoint the most effective measures for ensuring public and worker safety. Given the diverse systems used by various gas and petroleum asset owners, there's no unified set of controls that would facilitate a comparative analysis. Establishing a standardised list of controls and reporting metrics would require concerted efforts and collaboration, which presents its own set of challenges.
- Disparate GIS platforms, inconsistent digital data, and a risk-averse or resistant data-sharing approach present significant challenges. For instance, the existence of hard copy records that haven't been digitised into a universally accessible format becomes an obstacle. The Critical Infrastructure Act also has the industry very risk-averse to sharing digital data despite the same information already being publicly available via the BYDA system in PDF format or even the emerging digital platforms that contain data that is not validated by asset owners.





Consistent with the Electricity Sector, the Gas and Petroleum sector also struggles with the diversity of the BYDA user base. The traditional reliance on a one-size-fits-all approach to information is a key driver of negative attitudes towards the BYDA service. Some of the key issues are listed as follows:

- There's a wide range of user needs and preferences when it comes to accessing and using data, impacting the overall service and value of BYDA. The user base ranges from residential DIY to Tier 1 construction professionals, with all parties receiving exactly the same information in the same formats.
- Without a single representative voice for users, BYDA often steps in to champion the requirements of these various user groups.
- Teams within the Asset owner organisations managing the referral response may not be exposed to what the end-users really need and value from the service.
- To ensure that all parties have a 'voice', BYDA needs to be a reliable resource by creating closer collaboration between asset owners, BYDA users, and BYDA itself is essential.
- There can be large discrepancies in users' understanding of potential risks, e.g., residential users not fully understanding the risk of damaging a high-pressure gas line.

- Not all locators undergo training unless they aim to be certified via a bespoke certification program. Most gas and petroleum asset owners train their own teams to locate high-risk/high-value assets internally due to a lack of standardised skill sets and nationally recognised qualifications for the locating profession. This creates confusion with the public and industry alike regarding the engagement of a locator. (It is also important to note here that since the restructure of the Dial Before You Dig state-based organisations to form the national organisation of “Before You Dig Australia”, DBYD certified locators, also known as DCL, are not part of the BYDA business structure, with BYDA having no formal ties or oversight of the DCL or its operations.)

The forum highlighted that for BYDA’s service to truly resonate with end users, it’s vital that asset owners work towards a unified approach. This brings up a key question: What should be standardised universally, and what can be tailored to specific entities? The accuracy of data and the presentation of supporting information play a pivotal role in how end users perceive and handle potential risks.

A key takeaway from the Gas and Petroleum sector forum was the lack of consistency amongst asset owners regarding naming conventions and symbology for common equipment, risk terms, and other key elements of the referrals. This further reinforces the confusion the users of the system can experience trying to understand multiple responses across different asset owners (with even expiry dates on plans differing) and the need for a whole industry approach to achieve simplification where possible.

# THE CASE FOR CHANGE

The case for change is undeniable. Even with challenges, both actual and perceived, it's imperative for the Gas and Petroleum sector, alongside their broader industry peers, to chart a clear course towards digital transformation within a realistic timeframe. This evolution will ensure that BYDA remains the preferred source of information for all users. But along with exploring digital transformation, there is plenty that can be done to improve the clarity of the information being pushed through the BYDA service, as well as closing the loops on damage data and feedback to ensure a more agile response to safety concerns.

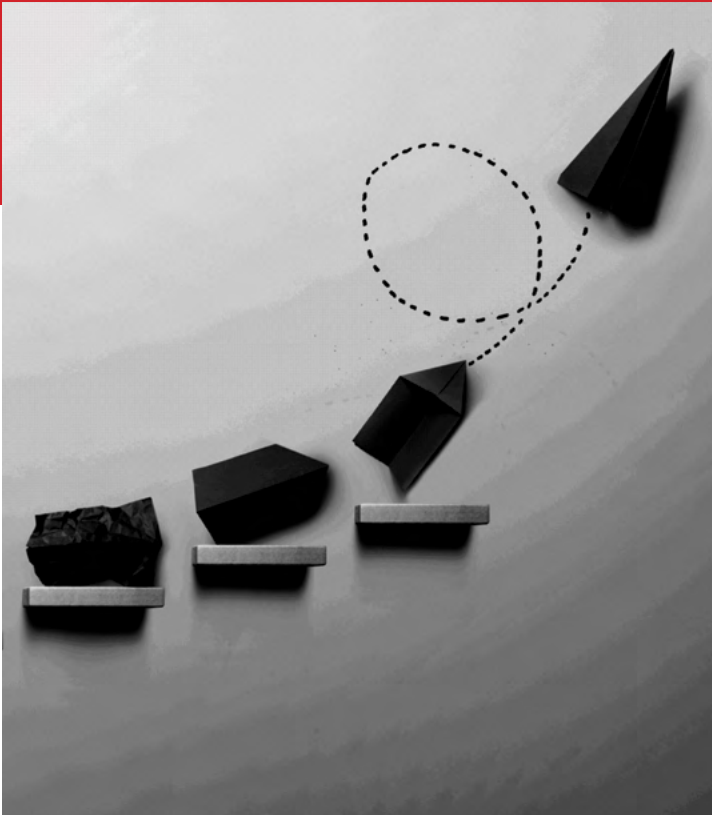
It was not surprising that over the two and a half days of the Gas and Petroleum Safety forum, the conversation themes echoed those of the earlier Electricity safety event. Highlighting that despite the differences in asset type, the safety pressures and concerns around damages are consistent and that the ability for cross-sector learning and information sharing is high.



# KEY AREAS FOR CHANGE

**The Gas and Petroleum Sector Forum participants have committed to exploring three key areas:**

- Best Practice Referral Response
- Collaboration on key areas that have synergy across all asset owners such as safety messaging and education content
- Damage Data Reporting



## *Best Practice Referral Response:*

The Gas and Petroleum Sector involved diverse network operators handling distribution and transmission assets. Discussions highlighted varying risk profiles across the sector, confusing end users despite shared risk mitigation goals. Diverse terminology and symbols were identified, creating confusion for end users while being interchangeable within the industry. The sector is exploring the adoption of common descriptors to form a glossary for all asset types.

Addressing this, BYDA launched a Best Practice Guide for referral response in October 2023, setting clear parameters for a “Good” response. BYDA aims to ensure alignment with these guidelines by engaging with asset owners across sectors. The guide can be downloaded [HERE](#).

Participants highlighted challenges due to diverse BYDA users, especially those with English as a second language. BYDA seeks to collaborate with members to provide crucial information in multiple languages, aiming for enhanced service accessibility to ensure safety around underground infrastructure.

The electricity sector event underscored the importance of addressing language barriers and promoting literacy. BYDA plans to create short, multilingual videos focusing on safe work practices and plan reading basics to support damage prevention.

This proactive engagement showcases BYDA’s commitment to addressing sector challenges and promoting a safer environment around underground infrastructure.

## *Collaboration*

The discussion centred on enhancing collaboration among all BYDA members to address common challenges in safe excavation near infrastructure. This approach aims to foster better connections among asset owners, allowing for a more flexible response to issues such as referral content, safety messaging, and best practices. The commitment to annual forums and discussion panels was highlighted in the electricity forum and will continue.

The diverse user base, spanning private homeowners, tradespeople, engineers, locators, and asset owners, emphasised the need for clear user segmentation and service-specific needs. BYDA is committed to developing these segmentation profiles, enabling asset owners to tailor their responses effectively.

The group emphasised the importance of collaborative education on safe excavation practices for industry professionals and the community. It was agreed that BYDA and asset owners should improve the sharing of educational content and coordinate events for joint participation.

BYDA embraces its role as a facilitator in setting the gold standard for promoting safe excavation. The aim is to support the spread of crucial safety messages from its members. By facilitating collaborative efforts among members, BYDA is committed to enhancing safety standards and nurturing a culture of collective responsibility and best practices in excavation.

## *Damage Data Reporting:*

The consensus from the Electricity and the Gas and Petroleum forums is clear: sharing data about damages and near-misses with BYDA would yield significant benefits. First, it would enable BYDA to tailor its educational materials, community outreach, and national campaigns more effectively by targeting the behaviours and demographics most at risk, as highlighted by the data. Second, the availability of this data would facilitate a data-driven analysis to measure the effectiveness of various communication strategies in reducing incidents, leading to more informed and impactful damage prevention efforts. Lastly, an annual report detailing trends, akin to the American “DIRT” report, could be established. This would not only benefit the individual sectors by providing valuable insights but also foster wider industry learning and collaboration.

The most recent “DIRT” report can be downloaded [HERE](#): as an example of what could be created by BYDA for the Australian industry.

A simpler damage and near-miss data template, built on principles established by the Electricity forum, is under review by participant organisations. Following the forum, BYDA is pleased to announce a signed data-sharing agreement with the Australian Pipelines and Gas Association subcommittee - The Pipeline Operations Group (POG). This agreement will avoid duplicating transmission encroachment data for POG contributors in BYDA reports. This fosters a stronger alignment and mutual support between BYDA and APGA, combining transmission data with BYDA’s distribution network damage data for comprehensive industry trends.

# SUMMARY

BYDA stands at the forefront of fostering a collaborative approach to deliver improved damage prevention for members by focusing on end-user needs and digital transformation, with the unwavering objective of keeping zero damage – zero harm front and centre of all its services. Recognising the critical nature of the information it provides, BYDA is dedicated to ensuring that all users regard its service as a vital safety tool tailored to their needs.

The industry's historic tendency to operate in isolation is shifting. BYDA is championing a new vision – one where asset owners view themselves not just as individual entities but as integral parts of a comprehensive underground network. By adopting this collective mindset, we can forge effective, experience-based approaches to change and digital adoption.

Central to BYDA's agenda is a commitment to digital adoption and enhanced user experience, as outlined in its strategic plan for the coming three years. This vision includes the creation of an intuitive user portal that consolidates information for user convenience and a digital repository of essential safety communications available in both text and video formats. Moreover, this year marks a pivotal moment as BYDA redefines its referral process, streamlining communication to eliminate redundancies and ensuring that critical information from asset owners is conveyed clearly and effectively.

Transformation, however, is not a journey that BYDA can undertake alone. It can only happen if there is a unified dedication towards digitisation and a focus on improving the end-user experience from all of BYDA's members.



# ACKNOWLEDGEMENT

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BYDA's next sector safety forum will be for the Water business members and is scheduled for the 19<sup>th</sup> and 20<sup>th</sup> of March 2024, followed by the Telecommunications business members forum scheduled for the 4<sup>th</sup> and 5<sup>th</sup> of June, hosted by BYDA in Melbourne. Registrations are now open. To find out how you can be part of this critical conversation, you can contact BYDA team member Jason Stanley at [Jason.Stanley@byda.com.au](mailto:Jason.Stanley@byda.com.au) or by mobile at 0417 100 255.