DEEP DIVE INTO SYSTEMIC RISKS IN THE AUSTRALIAN ARCHITECTURE SECTOR

Report by the ARBV and NSW ARB

June 2024

CONTENTS

ABBREVIATIONS

ABBREVIATION	TERM
AACA	Architects Accreditation Council of Australia
AI	Artificial intelligence
AIA	Australian Institute of Architects
ARBs	Architect Registration Boards
ARBV	Architects Registration Board of Victoria
BCA consultants	Consultants who provide technical advice on the National Construction Code
Code	Code of Professional Conduct
CPD	Continuing Professional Development
Deep Dive Report	This "Deep Dive Report into Systemic Risks in the Australian Architecture Sector" (2024) by the ARBV and NSW ARB
D&C	Design and construct
NCC	National Construction Code
NSCA	National Standard of Competency for Architects
NSW ARB	NSW Architects Registration Board
NSW Architects Act	*Architects Act 2003* (NSW)
NSW Architects Regulation	*Architects Regulation 2017* (NSW)
NSW Code	NSW Architects Code of Professional Conduct, which is a schedule to the NSW Architects Regulation
NSW DBP Act	*Design and Building Practitioners Act 2020* (NSW)
RIBA	Royal Institute of British Architects
Steering Committee	A committee comprising representatives from the ARBV and NSW ARB who were involved in the preparation of this report
Systemic Risks Report	Report by the ARBV and NSW ARB on "Systemic Risks in the Australian Architecture Sector" (2022)
Victorian Architects Act	*Architects Act 1991* (Vic)
Victorian Architects Regulation	*Architects Regulations 2015* (Vic)
Victorian Code	Victorian Code of Professional Conduct, which is a schedule to the Victorian Architects Regulations

1 EXECUTIVE SUMMARY

Background

1. In 2022, the Architects Registration Board of Victoria (**ARBV**) and the NSW Architects Registration Board (**NSW ARB**) undertook a joint research project to identify current and future systemic compliance issues and associated risks affecting regulation of the architecture profession in Australia. The report on "Systemic Risks in the Australian Architecture Sector" (**Systemic Risks Report**) contains the results of that research project.[1]

2. The Systemic Risks Report was largely based on a desktop review of Australian and global sources of information, including surveys and studies of the construction and architecture sectors, both in Australia and abroad. To further interrogate the results of the desktop review reflected in the Systemic Risks Report, in 2023, the ARBV and NSW ARB (collectively referred to as the **ARBs** in this report) decided to collaborate once again to conduct a series of focus groups to undertake "deep dives" in relation to key themes identified in the initial research – namely, client-architect relationships and agreements, design and construct procurement (**D&C procurement**), compliance with the National Construction Code (**NCC compliance**) and disruptive change. The focus groups included representatives from Victoria and NSW and from across the sector, including architects, industry bodies, clients, developers, builders, building surveyors, insurers, academics, government agencies and other regulatory bodies.

3. The analysis and findings from the Systemic Risks Report have been combined with the insights from the focus groups to prepare this "Deep Dive Report into Systemic Risks in the Australian Architecture Sector" (**Deep Dive Report**). The main purpose of this report is to share the insights gained by the ARBs in relation to the four themes addressed during the focus groups as well as the implications for the ARBs and for other sectoral participants so that built outcomes can be improved. The primary focus of the discussion in this report is on issues relating to architects' professional standards obligations under the regulatory frameworks administered by the ARBs, although many issues identified in this report extend beyond this scope given their systemic nature.

Key insights

4. The comments made during the focus groups confirmed the existence of systemic risks identified in the Systemic Risks Report. However, the focus group comments helped to add detail and nuance to the findings in the Systemic Risks Report and deepen the ARBs' understanding of systemic risks. This, in turn, has enabled more specific recommendations to be made to address those risks.

[1] The Systemic Risks Report can be found on the ARBV website at: https://www.vic.gov.au/systemic-risks-australian-architecture-sector and on the NSW ARB website at: https://www.architects.nsw.gov.au/download/Report%20on%20Systemic%20Risks%20for%20the%20Architecture%20Sector%20in%20Australia.pdf.

5. The key insights about systemic risks facing the Australian architecture sector are summarised below:

   - *Client-architect relationships and agreements*: Sound communication between the architect and client is critical for a good relationship, yet this is an area where there is scope for improvement both by the architect (particularly in relation to project delivery) and by the client (to ensure that clear lines of communication are in place and working effectively). The sector could benefit from a better understanding of the different facets of communication between architects and their clients and how they can be employed to enhance outcomes. There is also evidence to indicate that bespoke client-architect agreements are common and these agreements are not being used effectively to manage client-architect relationships and associated risks in the context of both small and large-scale projects.
   - *D&C procurement*: D&C procurement can result in a shift in responsibility for, and control of, the design delivery process away from the architects, which can ultimately compromise the quality of built outcomes and may mean that architects are unable to discharge their professional standards obligations. High-level design documentation may be favoured under D&C procurement. This, coupled with limited on-site presence, may hamper the ability of architects to manage design intent during the construction process.
   - *NCC compliance*: There is disagreement among sectoral participants about whether NCC compliance can drive quality built outcomes because the NCC only establishes minimum standards in relation to certain built outcomes. This disagreement may affect architects' understanding of the NCC and the way they use the NCC in practice. Specific roles and responsibilities to ensure NCC compliance are not well understood, particularly in the context of D&C procurement. In addition, architects' ability to demonstrate that their designs are NCC-compliant may be compromised when the scope of design services procured from the architect is limited. Design documentation that is not sufficiently detailed may lead to NCC non-compliance in built outcomes.
   - *Disruptive change*: Overall, the level of awareness and preparedness to respond to disruptive change across the full breadth of the architecture profession is likely to be limited, particularly climate change and technological change. While larger architectural practices may have the capacity and resources to be responsive to disruptive change, this is less likely to be the case for smaller practices and sole practitioners. The profession may need to make adjustments to their services, and the way in which they are delivered, in light of these changes to ensure that professional standards can continue to be met but also to avail of the opportunities that disruptive change presents.

6. The focus group discussions also revealed the following overarching insights:

   - *Roles and responsibilities* Even though sectoral participants appear to recognise the important contribution that architects can make to good quality built outcomes, the specific roles and responsibilities among project participants are not well understood, particularly in the D&C context. This could compromise the well-functioning of relationships, especially between the architect and client.

› *ARBs' role*: There is also some confusion across the sector about the ARBs' role. Some stakeholders appear to be under the misapprehension that the ARBs are advocates for architects in a similar way to industry bodies. Misunderstandings about the ARBs' role under the regulatory frameworks they administer could hamper their ability to discharge their regulatory functions and, in turn, impact their contribution to positive outcomes in the sector. There is a need for more education about the role of the ARBs.

7. The table below summarises the main findings, insights and implications arising from the analysis for this report, followed by a list of recommendations for key stakeholders that could play a role in mitigating risks facing the Australian architecture sector.

	TOPIC	FINDINGS	INSIGHTS	IMPLICATIONS
CLIENT-ARCHITECT RELATIONSHIPS AND AGREEMENTS				
1.	**Factors that can have an adverse impact on the client-architect relationship**	› There is a broad range of factors that may have an adverse impact on the client-architect relationship throughout the process of procuring and providing architectural services, including: › misalignment of design expectations between the architect and client about the brief and the design › inadequate skills and expertise (including in relation to project delivery) › ambiguity of roles and responsibilities › engagement of an architect for partial services › onerous and unfair contractual obligations › fee arrangements and variations › inefficient and ineffective communication and engagement › lack of detail in design documentation › regulatory non-compliance.	› A number of the factors that can have an adverse impact on the client-architect relationship arise in the context of particular procurement processes and may be outside the control of architects. › However, some factors are at least partly within architects' control regardless of the procurement process.	› Architects could benefit from more guidance about how to effectively address factors that can have an adverse impact on the client-architect relationship that are within their control. › Raising awareness among sectoral stakeholders about factors that are outside architects' control could enhance the client-architect relationship and outcomes for all parties.

	TOPIC	FINDINGS	INSIGHTS	IMPLICATIONS
2.	**Roles, responsibilities and obligations**	› There isn't a clear and common understanding of architects' roles, responsibilities and main obligations to clients among sectoral participants. › The mutuality of the relationship between clients and architects has not been thoroughly explored, particularly identification of clients' responsibilities and obligations to architects. › Better understanding of clients' roles and responsibilities could facilitate architects' delivery of services in accordance with their professional standards obligations.	› The lack of a clear and common understanding of roles, responsibilities and obligations of architects and their clients may stem from the fact that these may change under some procurement processes. › This lack of clarity could compromise the well-functioning of the client-architect relationship and undermine architects' capacity to advocate for themselves and the design process.	› More information is needed for sectoral participants about the roles, responsibilities and obligations of architects and clients in the context of different procurement processes.
3.	**Factors that affect communication between architects and clients**	› Communication between clients and architects is multifaceted and bi-directional. › It is unclear whether the scope, form and content of communication required to ensure successful outcomes from procurement through to delivery of architectural services is well-understood. › The lines of communication between architects and clients may be unclear or limited in the context of certain procurement processes.	› Architects are likely to have strong skills in communicating about design, but may find communicating clearly about some aspects of project delivery more complex, even though these aspects are likely to be important for the client. › Architects' ability to discharge their communication obligations to their clients may be compromised if lines of communication with clients are unclear or limited.	› Given that communication issues are common in the provision of architectural services, more education and training about all aspects of communication between clients and architects could be beneficial, particularly in relation to project delivery and in the context of different procurement processes. › Client-architect relationships could also be improved if clients are more aware of the impact of poor communication between architects and clients on project outcomes.

	TOPIC	FINDINGS	INSIGHTS	IMPLICATIONS
4.	**Use of a client-architect agreement to drive a positive client-architect relationship**	› There is evidence to indicate that client-architect agreements are not being used effectively or constructively in the context of small construction projects as well as large projects; bespoke contracts are common in both contexts. › For small-scale projects, architects may fail to adequately educate clients about the terms and conditions of client-architect agreements. For larger projects, where clients may provide the client-architect agreement rather than *vice versa*, bespoke contracts may focus predominantly on risk allocation and management. › Some lending institutions may only provide credit for construction projects on condition that D&C procurement is used and the contract contains certain terms and conditions.	› There appears to be a lack of appreciation of the value of adopting and implementing a standardised client-architect agreement that is consistent with the regulatory framework. › Architects may be unduly deferent and may accept terms and conditions put forward by clients in the context of some procurement processes, notwithstanding their obligation to ensure the client-architect agreement complies with their regulatory obligations regardless of the procurement process. › The use of standardised client-architect agreements can help ensure transparency and clarity about roles and responsibilities which, in turn, may reduce the risk of disputes.	› A better understanding of the drivers for the preference of bespoke contracts for small and large projects could help identify how greater uptake of standardised contracts that are compliant with the regulatory framework could be achieved. › Architects need to adopt a proactive approach in all procurement processes to ensure that the client-architect agreement complies with the regulatory framework.
5.	**Impact of fee structures on client-architect relationships**	› The fee structure, which may affect the well-functioning of the client-architect relationship, will be dictated by a range of factors, including the type of project, client and design services that are required. › In general, fixed fees are likely to be preferred by clients because they provide relative cost certainty whereas percentage fees are likely to be favoured by architects because they can enable cost-recovery for inflation and unforeseen developments that can occur during a project.	› Percentage fees may destabilise client-architect relationships because of the cost uncertainty that they imply. › Fixed fees are onerous for architects because they involve a detailed specification of services that need to be costed. Fixed fees also need to anticipate and provide for inclusions and exclusions, which may be difficult to predict at the commencement of a project.	› There may be scope for architects to improve their capacity to demonstrate their value to clients through different fee structures. › The use of standardised specifications of services for different types of building projects could help alleviate the burden on architects when setting fixed fees.

	TOPIC	FINDINGS	INSIGHTS	IMPLICATIONS
6.	**Education and training to enhance client-architect relationships**	› Architects are looking for more guidance about what a good client-architect relationship looks like in practice. › More education and training about communication between architects and their clients would be particularly helpful.	› While architects may understand what their obligations to clients are under the regulatory framework, they could benefit from more education about how those obligations can be used to forge positive client-architect relationships. › Clients could also benefit from education about their role in enhancing client-architect relationships.	› Guidance and case studies for architects and clients to highlight factors that lead to positive client-architect relationships in different procurement and project contexts would be useful.
D&C PROCUREMENT				

7.	**Impact of D&C procurement on the design process**	› The combination of the following features of D&C procurement can result in a shift in responsibility for, and control of, the design delivery process away from architects:
		  › cost and time imperatives
		  › complexity of relationships and lines of reporting
		  › siloing of functions
		  › unfair contractual arrangements.
			› Architects are likely to have reduced influence over the design process in the context of D&C procurement.
			› The shift in responsibility for, and control of, the design delivery process away from architects under D&C procurement may have an impact on:
			  › the level of detail of design documentation that an architect is expected to prepare
			  › the quality of the design
			  › the translation of the design into the built outcome.
			› NCC non-compliance and poor quality built outcomes may result from:
			  › design documentation that is not sufficiently detailed
			  › failure to ensure consistency with the design during the building process.
				› Mechanisms to ensure that architects retain adequate control over the design process and are able to manage design intent when the project is being built are critically important in the D&C context.
				› More oversight is needed of the interpretation of the design during the construction process to mitigate the risks of NCC non-compliance and poor quality built outcomes.
				› In order to minimise the risk of NCC non-compliance, documentation of critical aspects of a design should be required before a D&C contract is novated or a building designer takes over design services from an architect.

	TOPIC	FINDINGS	INSIGHTS	IMPLICATIONS

8.	**Factors that contribute to adverse outcomes for architects and the design process in the D&C context**	› There are various factors that can contribute to adverse outcomes for architects and the design process when D&C procurement is used, such as limits on the project budget and the lack of a sufficiently collaborative approach among all key stakeholders in the project delivery process.	› A number of the factors that can contribute to adverse design outcomes are outside architects' control, such as the culture and approach among project participants.	› Architects could benefit from training on:
				  › the pros and cons of different procurement models
				  › which models are best suited to particular contexts
				  › how professional standards obligations can be complied with in each of those contexts
				  › the possible impact on built outcomes in each case.
				› Broader education among sectoral participants about the impact of cultural issues on built outcomes is essential if adverse outcomes are to be minimised in the D&C context.

9.	**Impact of D&C contracts on allocation of risk, liability and insurance**	› Contractual mechanisms are being used in the D&C context to unfairly allocate risk and responsibility to architects beyond what is reasonable and, potentially, beyond the common law duty of care.	› The allocation of risk and indemnities under D&C contracts may be designed to ensure finance is available for a project; developers suggest they have limited capacity to negotiate with the major lending bodies to deviate from standard contractual terms.
			› Unfair contractual arrangements can also compromise insurance coverage which could lead to negative outcomes for clients if a claim is made.
			› Architects could potentially face more claims if the following are not effectively addressed:
			  › cultural factors regarding approaches to D&C procurement among key sectoral participants
			  › the "mismatch" between the design and construction phases of a project.
				› Without support and advocacy on their behalf, architects are unlikely to have sufficient leverage to negotiate more favourable terms in the D&C procurement context, even though these terms could affect exposure to liability and insurance coverage.
				› Engagement with key lending institutions to highlight the risks associated with unfair contract terms that can arise in the D&C context could be helpful.

	TOPIC	FINDINGS	INSIGHTS	IMPLICATIONS

10.	**Impact of D&C contracts on built outcomes**	› D&C procurement can be used as a contractual tool to prioritise time and cost of a construction project, which can undermine the chance of achieving good quality built outcomes.	› D&C procurement can lead to good quality built outcomes, but only where "buildability" is prioritised over time and cost.
			› Alignment is needed in relation to a number of factors, including:
			  › a commitment to quality among key project participants
			  › an experienced builder that is realistic about costs
			  › a sound, collaborative consultant team.
				› While architects have limited control over many factors that can support good design and the delivery of good quality built outcomes in the D&C context, they could still benefit from stronger skills to robustly advocate for and protect their interests and design intent in this context.

11.	**Mechanisms that can mitigate adverse impacts of D&C contracts on design and delivery of architectural services**	› Early collaboration between designers and those with trade intelligence is likely to deliver the best results from D&C procurement.	› A legislative response has been employed in NSW to drive a more integrated approach to design and buildability, but there may be other less interventionist options.	› Sector-wide cultural change that focuses on early engagement and collaboration coupled with appropriate regulatory support through practitioner regulation may help to drive better outcomes from D&C procurement.

12.	**Education and training to improve D&C outcomes**	› Evidence from the focus groups indicates that there is a need for more education and training for architects about:
		  › procurement models
		  › negotiating and navigating contractual arrangements in a D&C context
		  › risk management.
			› The full scope of education and training that is currently available to architects about D&C procurement and associated risks is unclear.	› A stocktake and analysis of current education and training about D&C procurement could be beneficial to ensure that future education and training is appropriately targeted.
				› There may be benefit in providing sectoral participants with case studies to illustrate good practice in the context of D&C procurement.

NCC COMPLIANCE				
13.	**Link between NCC compliance and quality built outcomes**	› There is disagreement among sectoral participants about whether NCC compliance can drive quality in the final built outcomes because the NCC only establishes minimum standards in relation to certain built outcomes.	› There is an apparent ambiguity among some sectoral participants about the outcomes that the NCC is designed to achieve, particularly in relation to the quality of built outcomes.	› There is work to be done to determine how NCC compliance can be used to ensure quality built outcomes, particularly in the context of different procurement processes.

	TOPIC	FINDINGS	INSIGHTS	IMPLICATIONS
			› This ambiguity may affect architects' understanding of the NCC. It could also affect the way the NCC is used in the context of design, particularly the compliance pathway that is followed.	
14.	**Responsibility for NCC compliance**	› There is general agreement that responsibility for NCC compliance is a shared role among building sector participants involved in a particular project, but there is less clarity about the specific roles and responsibilities of each participant.	› There appears to be a perception among at least some sectoral participants that allocation of responsibility for NCC compliance to parties for aspects of a building project that are beyond their expertise and/or control is reasonable and lawful, particularly in the context of certain procurement models. › The interface between the provision of architectural services and the construction of a building may give rise to ambiguity about who is responsible for NCC compliance in the final built outcomes.	› There is a need for greater clarity about roles and responsibilities for NCC compliance in the context of particular procurement models and in other contexts where responsibility may change during a construction project.
15.	**Scope of architects' obligations to ensure NCC compliance**	› Architects must ensure that their designs and design documentation are compliant with the NCC, but it can be difficult to demonstrate compliance if the level of detailed design documentation required by the client is limited, such as in the context of novated D&C procurement.	› Criticisms have been levelled at architects about inadequate design documentation and the impact on NCC compliance, but the level of detail of design documentation may be driven by the client and the procurement model, rather than by the architect.	› The sector would benefit from greater clarity about the different levels of detail of design documentation, the possible consequences of each level of detail for project outcomes, and the process of interpreting and building in accordance with the design, in each case. › More analysis is needed to determine whether limited design development requirements in D&C procurement is more likely to lead to NCC compliance issues in built outcomes and/or more defects.

	TOPIC	FINDINGS	INSIGHTS	IMPLICATIONS
16.	**Factors that can compromise architects' ability to ensure NCC compliance**	› Evidence from the focus groups indicates that it is more likely that design documentation does not clearly demonstrate NCC compliance than that the designs themselves are non-compliant with the NCC. › There are various factors that can compromise architects' ability to support NCC compliance of built outcomes but they are mostly outside architects' control, particularly in the context of D&C procurement. › The NCC has gaps and limitations (such as limitations on accessibility of Australian Standards) that could also affect architects' ability to ensure NCC compliance.	› The impact of the procurement approach on NCC compliance is likely to be largely linked to project priorities and compliance attitudes of the parties involved in a construction project, particularly the client and contractor. › It is likely to be difficult for architects to help ensure NCC compliance of built outcomes if responsibility for, and control of, design delivery is shifted away from the architect and/or the architect has limited oversight of the interpretation of the design in practice during the construction process, which may occur in the context of D&C procurement.	› There is a need for better communication about how architectural documentation should be interpreted and applied on site to ensure NCC compliance in built outcomes. › More work could be undertaken to determine whether gaps and limitations associated with the NCC have any impact on NCC compliance and, if so, how these limitations could be overcome.
17.	**Mitigation of risks of NCC non-compliance**	› There is a view among some participants that following the performance solution pathway under the NCC may deliver better built outcomes and may also mitigate the risks of NCC non-compliance, but demonstrating NCC compliance may be more challenging under this compliance pathway.	› Architects may be deterred from reliance on the performance solution pathway under the NCC because of the challenges associated with demonstrating NCC compliance for this pathway and the risk of a design being found to be non-compliant.	› Greater guidance may be needed to illustrate how NCC compliance can be achieved using the performance solution pathway, particularly for design aspects that could lead to defects (such as waterproofing).
18.	**Enhancing awareness of NCC obligations**	› The NCC may be a challenging document for some architects to read, interpret and apply in practice.	› Architects' use of consultants to assess and ensure NCC compliance may help to reduce architects' exposure to legal liability but may also lead architects to have limited awareness about NCC compliance issues and may mean that compliance issues are not detected by reviewing architects. › Limited awareness of NCC compliance obligations and compliance issues may compromise architects' ability to advocate and defend their designs from a compliance perspective.	› Architects could use the provision of advice by consultants on NCC compliance as an opportunity to enhance their own understanding of compliance issues.

	TOPIC	FINDINGS	INSIGHTS	IMPLICATIONS
DISRUPTIVE CHANGE				
19.	**Architects' awareness and preparedness for disruptive change**	› While there is a spectrum in the level of awareness and preparedness among architects to respond to disruptive change caused by climate change and technological change, there are likely to be many architects who are ill-equipped to respond to this change, particularly those in smaller practices and sole practitioners.	› Architects' awareness and preparedness to respond to disruptive change is linked to a broad range of external factors, including society's broader preparedness to respond to disruptive change as well as the attitude and approach of key stakeholders within the construction sector. › The profession is potentially in the midst of a transformation that could affect what it means to be an architect in very practical terms as a result of disruptive change.	› Building architects' awareness of the sources and implications of disruptive change for the profession and for the delivery of architectural services must be a priority. › Architects would greatly benefit from support as they adjust to disruptive change. › Education and training should focus on enhancing architects' understanding of disruptive change and building practical skills so that they can respond to disruptive change in a cost-effective way.
20.	**Challenges faced by architects in responding to disruptive change**	› There are significant financial and practical imperatives within the construction sector that do not support a responsive approach to disruptive change.	› Architects may be complacent about disruptive change because the sector as a whole is not responsive to this change.	› It is important for architects to identify the opportunities that disruptive change can present to help progress a more responsive approach. › Architects will need to build advocacy skills so that they can demonstrate the value of responding to disruptive change to key stakeholders in the context of the provision of design services.
21.	**Improving architects' capacity to respond to disruptive change**	› As the market for architectural services is highly competitive, the ongoing viability of practices that fail to build their capacity to respond to disruptive change may be compromised.	› The speed and scale of disruptive change affecting architects is significant and may require a dramatic reinvention of the nature of and way that architectural services are provided.	› A commitment to continuous learning may mean that architects keep abreast of disruptive change and become experts capable of solving problems as the market for architectural services changes. › Specialisation of architectural services may be a cost-effective way for some practices to adapt to disruptive change.

	TOPIC	FINDINGS	INSIGHTS	IMPLICATIONS
22.	**Responding to climate change**	› Architects could miss out on the opportunities that climate change presents for architects because they are not sufficiently prepared.	› Architects who take the time to understand and are responsive to changing market needs in light of the impacts of climate change are more likely to thrive.	› Architects will need to build expertise in a range of areas in order to capitalise on opportunities presented by climate change, including: › whole-of-life-cycle building analysis › integration of reuse into building design › design development that is appropriately tailored to local conditions and needs.
23.	**Responding to technological change**	› There is a lack of sectoral awareness and understanding of how technological developments will change the provision of architectural services, particularly emerging digital tools and AI.	› AI and digital tools could have a significant impact on the market for architectural services but it is unclear how architectural practices need to change in order to keep pace with these developments.	› More information is needed about the likely impact of AI and digital tools on the market for architectural services so that architects are better equipped to respond.
24.	**Education and training**	› There is a need for more education and training to help architects respond to disruptive change, including availing of the opportunities that disruptive change presents and mitigating the risks that disruptive change could entail.	› A dynamic approach to education and training that keeps pace with external change is necessary.	› Advice and support on accessing and using tools to respond to disruptive change in a cost-effective way would be useful.

Recommendations

8. The systemic nature of the risks facing the Australian architecture sector that have been identified in this report means that there are implications for the ARBs as well as a range of other stakeholders that may have the capacity to mitigate those risks. On this point, it is important to note the positive, constructive attitude exhibited by the broad range of sectoral participants who contributed in the deep dive focus groups. They displayed a genuine interest and concern in addressing systemic risks facing the architecture sector in a collaborative and joined up manner.

9. Set out below are the Steering Committee's recommendations, which have been organised according to the stakeholder group each recommendation is directed to and the recommended types of interventions. In making these recommendations, the Steering Committee is cognisant and appreciative of the significant efforts various stakeholder groups have already made to address the recommendations in the Systemic Risks Report. However, as is evident from this Deep Dive Report, there is still more work to be done.

	AREA	CLIENT-ARCHITECT RELATIONSHIPS	D&C PROCUREMENT	NCC COMPLIANCE	DISRUPTIVE CHANGE
ARCHITECT REGISTRATION BOARDS					
1.	**Continuing Professional Development for architects**	› Scope and content of architects' communication obligations to their clients under the regulatory framework › Required contents of client-architect agreements and the use of standard form client-architect agreements for all types of projects › Managing client-architect relationships in accordance with professional standards obligations in the context of different procurement contexts	› Discharge of professional standards obligations in the D&C context	› Achieving NCC compliance in the context of the delivery of architectural services and design documentation	› Sources and implications of disruptive change for architects' compliance with professional standards obligations
2.	**Published guidance**	› Architects' professional standards obligations in the context of different procurement models	› Links to relevant reports and research about D&C procurement		

	AREA	CLIENT-ARCHITECT RELATIONSHIPS	D&C PROCUREMENT	NCC COMPLIANCE	DISRUPTIVE CHANGE
		› Explanatory information about communication obligations under client-architect agreements			
INDUSTRY BODIES					
3.	**Continuing Professional Development for architects**	› Strategies to ensure effective management of client-architect relationships in the context of different procurement processes	› Advocacy, negotiation, collaboration and risk management in the D&C procurement context	› Mechanisms to protect design intent and ensure NCC compliance in the built outcome throughout the construction process	› Likely impact of disruptive change on the architecture profession
4.	**Published guidance**	› Standardised specification of architectural services that is suited to the Australian construction context › Mechanisms to demonstrate value to clients through different fee structures › Case studies to illustrate well-managed client-architect relationships, including identification and management of factors that are within and outside architects' control	› Publicly available information about what to be aware of in the context of D&C procurement, beyond what is already available such as the AIA Code of Novation › Case studies to illustrate the key factors that support good outcomes when D&C procurement is used	› Explanation of the various levels of detail for design documentation and the practical implications for the construction process for each level › Guide for architects regarding the use of the NCC in the design process	
5.	**Stakeholder engagement and advocacy**	› Encourage greater use of standard form client-architect agreements › Work with other relevant bodies to ensure standard form client-architect agreements are suited to different procurement contexts › Engage with government bodies to improve standard	› Identification of alternative procurement models that reduce the risks of poor quality built outcomes (such as co-operative contracting) › Practical mechanisms to enable architects to maintain design control throughout design and construction in D&C procurement	› Establish an agreed view of roles and responsibilities for NCC compliance under different procurement processes › Consider mechanisms to ensure greater on-site oversight of the construction process by architects to ensure NCC compliance, particularly in the	› Identification of how a more responsive approach to disruptive change across the sector can be achieved that is supportive of architects, the design process, and good design outcomes

	AREA	CLIENT-ARCHITECT RELATIONSHIPS	D&C PROCUREMENT	NCC COMPLIANCE	DISRUPTIVE CHANGE
		form government contracts	› Determination of how a more collaborative approach can be hard-wired into the D&C procurement model	context of D&C procurement	
6.	**Research and analysis**	› Survey to better understand the main drivers for the preference for bespoke contracts over standard form contracts for small and large projects	› Analyse the legality of relevant D&C procurement contracts in light of recent legislative reforms concerning unfair contract terms and identify action that can be taken by architects		› Strategic analysis and assistance to enable architects to assess their strengths and weaknesses in light of disruptive change and to capitalise on opportunities
EDUCATION AND TRAINING PROVIDERS					
7.	**Education and training**	› Architects' roles and responsibilities under different procurement models › Types, scope and content of architects' communication obligations to clients › Use and interpretation of client-architect agreements › Pros and cons of different fee structures and the use of tools to better quantify and value architectural services › Strategies to overcome challenges that could arise in the context of client-architect relationships	› Build advocacy, negotiation, collaboration and risk management skills that are tailored to the D&C procurement context	› Roles and responsibilities for NCC compliance in the context of different procurement processes › Approaches to ensure NCC compliance, including using the performance solution pathway	› Build practical skills to respond to disruptive change, including using available tools › Build skills to advocate for a more responsive approach to disruptive change in the context of particular procurement processes › Specialist courses that respond to opportunities presented by disruptive change

	AREA	CLIENT-ARCHITECT RELATIONSHIPS	D&C PROCUREMENT	NCC COMPLIANCE	DISRUPTIVE CHANGE
RESEARCH BODIES					
8.	**Research and analysis**	› Legal analysis of contractual arrangements that can ensure effective communication in practice	› Stocktake and analysis of adequacy of existing education and training for architects in the D&C context › Legal analysis of unfair contract terms in D&C contracts › Research to determine whether limited design development requirements in the context of D&C procurement are more likely to lead to NCC compliance issues in built outcomes and/or more defects	› Research to determine whether gaps and limitations associated with the NCC have any impact on NCC compliance › Research to clarify root causes of defects in the construction sector and to determine whether recent efforts to increase NCC compliance (including through legislative means) are likely to result in reduced building defects	› Analysis of the likely impact of AI and digital tools on the market for architectural services
GOVERNMENT BODIES (OTHER THAN THE ARBS)					
9.	**Legislative reform**	› Coordination of a national standard for project delivery of design services, drawing from models that have been established overseas	› Consider whether there is a case for prescribing a minimum level of design documentation for critical design elements, particularly in the context of novated D&C procurement		

2 ABOUT THE REPORT

10. A joint working group comprising the following representatives from the ARBV and the NSW ARB were involved in the preparation of this report:

ARBV

Dr Giorgio Marfella	Chairperson
Sophie Cleland	Deputy Chairperson
Dr Glenice Fox	CEO and Registrar
Shane Pearse	Manager, Governance

NSW ARB

Glenn Scott	Chairperson/President
Professor Helen Lochhead	Deputy Chairperson/ Deputy President
Dr Kirsten Orr	CEO and Registrar

11. Preparation of the report was facilitated by Dr Dariel De Sousa, Director of Dart Legal & Consulting.

3 FOREWORD

This report is the result of collaborative research funded by the ARBV and NSW ARB, aiming to understand systemic risks associated with the professional practice and regulation of architects in Australia. Drawing insights from a broad range of experts and stakeholders, the research delves into four thematic areas of risk already identified by the ARBV and NSW ARB in their 2*022 Systemic Risks in the Australian Architecture Sector* report. Using the desktop-based findings of that report as a guide, fieldwork data was collected through focus groups exploring the following lines of inquiry: 1. client-architect relationships and agreements, 2. the impact of design and construct procurement, 3. compliance matters with the National Construction Code, and 4. the potential disruptive effects of technological and environmental changes on the future of the profession.

These evidence-based findings highlight complex issues needing regulatory attention and strategic planning across the industry in order to protect clients and end-users as well as the public interest. They focus on the crucial role of client-architect relationships in achieving sustainable built environments through effective communication. Challenges such as unclear procurement methods, like novated contracts, impact project delivery. The report emphasises the importance of compliance with the National Construction Code and technical documentation standards, specifically within the architectural profession. It also forecasts potential impacts from future technological, environmental, and professional changes.

The project's findings align with the 2*022 Systemic Risks* report, aiding the ARBV and NSW ARB in proactive regulatory efforts. They aim to prevent unprofessional conduct through industry-wide intelligence gathering, guidance, and education for architects, clients, and end-users. The report emphasises collaborative approaches involving stakeholders including government agencies, architects, industry bodies, and universities to manage and ameliorate systemic risks effectively.

This project's outcome is the result of collaborative efforts led by Dr Dariel De Sousa of Dart Legal & Consulting, with contributions from a joint working group from the ARBV and NSW ARB. The team acknowledges Dr De Sousa's leadership in conducting the research, preparing the report, and coordinating inputs across workshops and drafts. We also thank Dr Glenice Fox, Dr Kirsten Orr, Shane Pearse, Sophie Cleland, Prof. Helen Lochhead, and all Board members of the ARBV and NSW ARB for their support in establishing and funding the research.

The report acknowledges the valuable insights shared in focus groups by sixty industry participants, whose diverse perspectives are included in an appendix to this report with minimal editing to preserve their original voices. These contributions from clients, developers, insurers, government authorities, engineers, and other industry stakeholders have not only enriched the research, but have also fostered a unique national dialogue among stakeholders in the Australian built environment sector.

Thank you,

Giorgio Marfella | Chairperson ARBV

Glenn Scott | Chairperson / President NSW ARB

4 BACKGROUND

A. Regulatory context

12. The architecture profession is regulated by Architect Registration Boards, which have been established in every Australian State and Territory. In Victoria and NSW, the respective regulatory frameworks are administered by the Architects Registration Board of Victoria (**ARBV**) and the NSW Architects Registration Board (**NSW ARB**), collectively referred to in this report as "**the ARBs"**.

13. The regulatory frameworks in Victoria and NSW (collectively referred to in this report as "**the regulatory frameworks**") comprise the following legislative instruments:

    › The *Architects Act 1991* (Vic) (**Victorian Architects Act**), the *Architects Regulations 2015* (Vic) (**Victorian Architects Regulation**) and the Code of Professional Conduct (**Victorian Code**), which is a schedule to the Victorian Architects Regulations.

    › The *Architects Act 2003* (NSW) (**NSW Architects Act**), the *Architects Regulation 2017* (NSW) (**NSW Architects Regulation**) and the NSW Architects Code of Professional Conduct (**NSW Code**), which is a schedule to the NSW Architects Regulation.

    › The Victorian and the NSW Codes set out the standards required of architects when they have been engaged to provide architectural services.

14. The regulatory frameworks impose a range of obligations on architects that are aimed at ensuring that they act professionally and in accordance with applicable standards. In turn, compliance with these obligations helps to protect the interests of clients of architectural services, end-users of buildings and infrastructure that involve the provision of such services, as well as the public interest more generally.

15. As regulators of the architecture profession in Victoria and NSW respectively, the ARBV and NSW ARB are responsible for ensuring compliance with the regulatory frameworks governing architects in each of those jurisdictions. In practice, the ARBV and NSW ARB employ a combination of proactive and reactive regulatory activities to pre-empt, prevent, detect and respond to non-compliance by architects with the regulatory framework.

16. The ARBs' work on systemic risks in the Australian architecture sector is part of their proactive regulatory activity. The focus of this work is at a systemic level, to understand key systemic risks facing architects across the entire sector, particularly those risks that could affect architects' ability to comply with their professional standards obligations. The main purpose is to assist the ARBs to determine whether and how they need to adjust their regulatory activities so that they can better support architects to navigate the current context, as well as to deliver positive outcomes for clients and users of architectural services and the general public.

B. Systemic Risks Report

17. In 2022, the ARBV and the NSW ARB undertook a joint research project to identify current and future systemic compliance issues and associated risks affecting regulation of the architecture profession in Australia. The report on "Systemic Risks in the Australian Architecture Sector" (**Systemic Risks Report**) contains the results of that research project and can be found on the ARBs' respective websites.[2]

18. The Systemic Risks Report was largely based on a desktop review of Australian and global sources of information, including surveys and studies of the construction and architecture sectors, both in Australia and abroad. The desktop review was used to identify high-level contexts and issues that could give rise to systemic risks for the Australian architecture sector. In summary, they were:

- the market for architectural services;
- procurement models;
- client-architect relationships and agreements;
- building defects, professional standards and compliance culture;
- risk, liability and insurance;
- climate change, sustainability and the transition to net zero;
- automation, digitalisation and innovation;
- education, training and continuing professional development.

19. These topics were the focus of two in-depth workshops with a working group comprising staff and Board members from the ARBV and NSW ARB respectively to determine their relevance for the regulation of architects and the architecture sector in Australia, particularly in Victoria and in NSW. During those workshops, complaints data and other anecdotal evidence available to the ARBs that validated or disaffirmed the observations and findings from the desktop review were considered.

20. The Systemic Risks Report includes implications and recommendations for the ARBs – particularly, regulatory responses that could be employed in the context of their proactive regulatory activities to pre-empt harm that could otherwise occur. The Systemic Risks Report also includes implications and recommendations for other stakeholders, including architects themselves, with the intention of fostering a collaborative and coherent approach to the management of systemic risks affecting the Australian architecture profession.

C. Focus Groups

21. To further interrogate the results of the desktop review reflected in the Systemic Risks Report, in 2023, the ARBs decided to collaborate once again to conduct a series of focus groups to undertake "deep dives" in relation to some of the main themes identified in the initial research.

[2] On ARBV's website, see: https://www.vic.gov.au/systemic-risks-australian-architecture-sector. On NSW ARB's website, see: https://www.architects.nsw.gov.au/publication-articles/618-report-on-systemic-risks-for-the-architecture-sector-in-australia.

Themes

22. The following four themes were identified for discussion during the focus groups:

    - *Client-architect relationships and agreements*: The need to enhance outcomes in the architecture sector through improved client-architect relationships.

    - *D&C procurement*: The need to support architects to overcome challenges and mitigate risk in the context of design and construct procurement (**D&C procurement**).

    - *NCC compliance*: The importance of enhancing architects' understanding of and compliance with the National Construction Code (**NCC**).

    - *Disruptive change*: How architects' preparedness to respond to disruptive change associated with climate change and technological developments can be maximised.

23. These themes were identified for further detailed consideration based on feedback from and discussion with stakeholders about the Systemic Risks Report and from the ARBs' collective understanding of the key issues confronting the sector at present. Each focus group dealt with one of the above themes.

Sectoral participants

24. In order to ensure a diversity of perspectives and insights, each focus group included a mix of around 10 participants from the following stakeholder groups:

    - Architects/industry bodies
    - Clients/users of architectural services
    - Developers/builders
    - Building surveyors
    - Insurers/brokers
    - Academics
    - Government agencies and other regulatory bodies

25. Two sessions were run for each theme to enable an opportunity for a large number of participants to express their views and share their insights. Each focus group also included a mix of Victorian and NSW stakeholders. Most of the above stakeholder groups were represented in each of the focus groups but, due to unavailability, there were some focus groups where not all stakeholder groups were represented. The focus group participants are listed in alphabetical order in **Appendix A.**

Board members and staff

26. Current and former Board members from the ARBV and the NSW ARB also attended the focus groups as observers. The observers are listed in **Appendix B.**

27. In addition, the focus groups were attended by the focus group organisers – namely, Glenice Fox (Registrar and CEO, ARBV), Shane Pearse (Manager, Governance, ARBV) and Kirsten Orr (Registrar and CEO, NSW ARB). The focus groups were facilitated by Dariel De Sousa (Director, Dart Legal & Consulting).

Participation

28. The focus groups took place online to facilitate participation and to enable participants from Victoria and NSW to attend focus groups together.

29. Participants were provided with the questions for each focus group in advance of each session. Every participant was provided an opportunity to provide oral responses during the focus groups as well as written responses. Some participants conferred with colleagues before the focus groups took place and shared those views during the focus groups. Each focus group was two hours in duration.

Record of focus group discussions

30. Following conclusion of the focus groups, a summary of comments made during the focus groups was prepared and circulated to participants to check for accuracy before the summary was finalised. The summary has been used to prepare this report, but does not form part of the report in order to protect the privacy and identity of the many focus group participants who generously gave up their time to participate in the focus groups and candidly shared their beliefs and opinions so that understanding of systemic risks in the sector could be enhanced.

D. Deep Dive Report

31. The analysis and findings from the Systemic Risks Report have been combined with the comments and insights from the focus groups to prepare this "Deep Dive Report into Systemic Risks in the Australian Architecture Sector" (**Deep Dive Report**). The Deep Dive Report focuses on the four themes that were discussed during the focus groups, namely:

- client-architect relationships and agreements;
- D&C procurement;
- NCC compliance; and
- disruptive change.

32. The primary purpose of this report is to share the additional insights gained by the ARBs in relation to the four themes addressed during the focus groups as well as the implications for the ARBs and for other sectoral participants – including government bodies, industry bodies, research bodies, education and training providers and architects themselves – so that sectoral outcomes can be improved.

5 METHODOLOGY AND APPROACH

A. Thematic analysis

33. As mentioned earlier in this report, four key themes arising from the initial research for the Systemic Risks Report were the subject of discussion during the focus groups.

34. In this report, a thematic analysis has been undertaken of comments made by focus groups participants in relation to each theme. More specifically, for each theme:

- key topics and issues that were raised by focus group participants have been identified; and
- for each issue, nuances of approach and/or perspective between focus group participants have been identified and analysed.

35. While comments made by focus group participants have informed the findings in this report, it is important to note that these are comments made by a limited number of sectoral participants. The comments cannot be taken to be representative of the relevant stakeholder group, nor reflective of the views of the ARBs. Nonetheless, the comments do highlight beliefs and opinions that exist within the sector, which have helped to deepen the ARBs' understanding of systemic risks facing the Australian architecture sector.

B. Further information

36. The thematic analysis of focus group comments has been supplemented with further information to assist in providing relevant insights in relation to issues arising from the focus group discussions, particularly in areas of disagreement between focus group participants.

37. Given that a thorough review and consideration of relevant literature was undertaken for the Systemic Risks Report, limited additional information has been considered for this report and is confined to material that is directly relevant to points raised during the focus groups.

C. Structure

38. The subsequent chapters of this report concern each of the four themes covered by the focus groups – namely, client-architect relationships and agreements, D&C procurement, NCC compliance and disruptive change.

39. In particular, each chapter includes the following for the relevant focus group theme covered by that chapter:

- key issues raised during the focus group;
- findings based on cumulative research and findings from the Systemic Risks Report and the analysis of focus group comments; and
- insights and implications from the findings.

40. The final chapter of this report includes conclusions arising from the thematic analysis.

41. **Appendix C** contains a structured summary of comments made by focus group participants. The ARBs' comments have been added to this summary in cases where focus group participant comments are clearly incorrect or based on misconceptions, but this was only necessary in a very limited number of instances. Individual participants have not been identified when referencing focus group comments, although abbreviations have been used to identify the relevant stakeholder group that made a comment and the focus group they participated in. The abbreviations to identify the source for each comments are set out in **Appendix D**.

6 CLIENT-ARCHITECT RELATIONSHIPS AND AGREEMENTS

A. Background

42. Successful relationships between architects and clients are essential for a number of inter-related reasons. They foster effective communication so that the client's needs and expectations in relation to time, costs, the design and the final built outcome are well understood by the architect, but also so that the architect's expertise and limitations are made clear. Engagement and collaboration between the client and architect and other relevant project participants can help align the design and built outcome with the client's vision, while also ensuring effective management of time and cost limitations. These features can also assist in establishing mutual trust, respect and confidence between the architect and client and drive positive outcomes from the perspectives of both the client and architect.

43. The Systemic Risks Report includes a chapter concerning client-architect relationships and agreements.[3] It discusses the importance of a well-functioning client-architect relationship to drive successful design and construction outcomes.[4] It also outlines the various aspects of the client-architect relationship that are regulated under the Victorian Code and the NSW Code respectively,[5] including the requirement that a client-architect agreement is in place. The Systemic Risks Report notes that these regulatory requirements are designed to ensure that the client-architect relationship is managed well.[6]

44. The focus groups were used to undertake a deep dive into sectoral participants' views regarding how client-architect relationships can be undermined as well as ways in which they can be enhanced. This chapter contains an analysis of the key issues discussed by focus group participants during the deep dive into client-architect relationships and agreements.

B. Key issues and findings

45. The key issues discussed by participants during the focus groups for this theme are summarised in Table 1 below together with the main findings reached by the Steering Committee.

[3] Chapter 5 of the Systemic Risks Report ("Client-architect relationships and agreements").
[4] Systemic Risks Report, para. 75.
[5] Systemic Risks Report, paras. 76 - 77.
[6] Systemic Risks Report, para. 78.

Table 1. Key issues and main findings for deep dive into client-architect relationships and agreements

	ISSUES	FINDINGS
1.	› Which factors have an adverse impact on client-architect relationships?	› There is a broad range of factors that may have an adverse impact on the client-architect relationship throughout the process of procuring and providing architectural services. › The factors include misalignment of design expectations between the architect and client about the brief and the design, inadequate skills and expertise (including in relation to project delivery), ambiguity of roles and responsibilities, engagement of an architect for partial services, onerous and unfair contractual obligations, fee arrangements and variations, inefficient and ineffective communication and engagement, lack of detail in design documentation and regulatory non-compliance.
2.	› Do sectoral participants have a common understanding of architects' main obligations to their clients?	› There isn't a clear and common understanding of architects' role, responsibilities and main obligations to clients among sectoral participants. › The mutuality of the relationship between clients and architects has not been thoroughly explored, particularly identification of clients' responsibilities and obligations to architects. › Better understanding of clients' role and responsibilities could facilitate architects' delivery of services in accordance with their professional standards obligations.
3.	› Which factors can affect communication between architects and clients?	› Communication between clients and architects is multifaceted and bi-directional; it is unclear whether the scope, form and content of communication required to ensure successful outcomes from procurement through to delivery of architectural services are well-understood. › The lines of communication between architects and clients may be unclear or limited in the context of certain procurement processes.
4.	› How are client-architect agreements used by parties in practice?	› There is evidence to indicate that client-architect agreements are not being used effectively or constructively in the context of small construction projects as well as large projects; bespoke contracts are common in both contexts. › For small-scale projects, architects may fail to adequately educate clients about the terms and conditions of client-architect agreements. For larger projects, where clients may provide the client-architect agreement rather than *vice versa*, bespoke contracts may focus predominantly on risk allocation and management. › Some lending institutions may only provide credit for construction projects on condition that D&C procurement is used and the contract contains certain terms and conditions.
5.	› What are the advantages and disadvantages of the various fees structures for architectural services?	› The fee structure, which may affect the well-functioning of the client-architect relationship, will be dictated by a range of factors, including the type of project, client and design services that are required. › In general, fixed fees are likely to be preferred by clients because they provide relative cost certainty whereas percentage fees are likely to be favoured by architects because they can enable cost recovery for inflation and unforeseen developments that can occur during a project.
6.	› Which areas for education and training can help improve client-architect relationships?	› Architects are looking for more guidance about what a good client-architect relationship looks like in practice. › More education and training about communication between architects and clients would be particularly helpful.

46. The next section of this chapter contains a discussion of the main insights and implications for this theme.

C. Insights and implications

Factors that can have an adverse impact on the client-architect relationship

47. The Systemic Risks Report notes that client-architect relationship can be affected by various factors.[7] Focus group participants were asked to identify factors that can lead to poor relationships. Set out below is a summary of the main factors identified by the participants:

- *The client's brief and design expectations*: Competing views between the client and architect about the brief and the detailed design may destabilise client-architect relationships.
- *Inadequate skills and expertise*: Client-architect relationships could be undermined when architects do not have the right skill set to undertake a project or fail to alert a client when extra skills are needed.
- *Ambiguity of roles and responsibilities*: Unclear roles and responsibilities, particularly in the context of projects involving complex, multi-party relationships can lead to confusion and poor relationships, including between the client and architect.
- *Engagement for partial services*: The client-architect relationship could be affected if an architect is engaged to develop the initial design, but the builder, other type of practitioner or client progresses the project without further input from the architect.
- *Onerous contractual obligations*: Bespoke contracts that impose unfair contractual terms on architects and uncapped exposure to liability can be detrimental to client-architect relationships.
- *Fee arrangements and variations*: Fee arrangements for architectural services that do not adequately account for cost escalation and fee variations can destabilise client-architect relationships.
- *Inefficient and ineffective communication and engagement*: Client-architect relationships may be compromised if clear lines of communication do not exist and relationships are not based on transparent, open, honest communication and engagement.
- *Lack of detail in design documentation*: Lack of detail in design documentation could lead to building defects which can, in turn, result in poor client-architect relationships.
- *Regulatory non-compliance*: Failure to comply with regulatory requirements can undermine client-architect relationships, as addressing non-compliance may result in costly variations and delays.

[7] Systemic Risks Report, paras. 79 – 83.

48. Notably, these factors relate to various aspects of the client-architect relationship and apply at different stages of the process of procuring and providing architectural services, ranging from brief preparation to design documentation and ensuring regulatory compliance. This indicates that a good client-architect relationship requires commitment and attention to the relationship throughout that process. Further, efforts to establish and maintain a well-functioning relationship necessarily involves a comprehensive and holistic approach.

49. A number of the factors that can have an adverse impact on the client-architect relationship may arise in the context of particular procurement processes and may be outside architects' control, such as the engagement for partial services, ambiguity of roles and responsibilities, and onerous contractual obligations (these are discussed in more detail below in Chapter 7 on Design & Construct Procurement). However, some factors are at least partly within architects' control regardless of the procurement process.

50. In relation to the adequacy of skills and expertise to undertake a particular project, the regulatory frameworks applicable to architects require architects to have sufficient skills and competence and to act with due care when providing architectural services.[8] Further, the NSW Code specifically requires an architect to advise a client to obtain specialist advice or services concerning an issue arising in connection with the provision of architectural services if the architect believes it is in the client's interest to do so.[9]

51. The regulatory frameworks do not specify the scope of skills that architects are required to possess, although the context suggests that they cover skills relating to the provision of architectural services. Various comments made by focus group participants suggest that architects are expected to have skills in project delivery. In that context, comments were also made that architects need to be flexible and capable of adapting to changing conditions throughout a project. These comments suggest that architects may need to upskill in the area of project delivery but they may also need to adapt their behaviour in the context of particular projects to ensure their approach to project delivery is tailored to each project and is appropriately modified when project conditions change.

52. The sufficiency of design documentation is also a critical issue that was raised across multiple focus groups and was also discussed in the Systemic Risks Report.[10] Comments made by focus group participants illustrated how insufficiently detailed documentation could lead to misunderstanding or misinterpretation of the architect's design intent by contractors, subcontractors, or other project stakeholders and that this can, in turn, lead to errors, omissions or substitutions during the construction process and ultimately result in delays, cost overruns and building defects. As illustrated by the *Lacrosse* case, this scenario could also expose architects to civil liability and may result in architects being in breach of their professional standards obligations.[11]

[8] Clause 1(a) and 2(1) of the Victorian Code. Clause 4 and 13 of the NSW Code.
[9] Clause 4(5) of the NSW Code.
[10] Systemic Risks Report, paras. 129 – 134.
[11] *Owners Corporation No 1 of PS613436T v L U Simon Builders Pty Ltd* [2019] VCAT 286. See discussion about this case in the Systemic Risks Report, para. 64.

53. The Victorian and NSW Codes impose general obligations on architects to act with reasonable care in providing architectural services;[12] this implies that design documentation must be sufficiently detailed given the context in which that documentation is provided. The focus group comments confirm the need for architects to invest in more detailed design documentation, although the point was also made that, under D&C procurement, design documentation is only completed to a stage required by the contractor and that there is no obligation to provide full documentation. This highlights the dilemma that architects may face – namely, that detailed documentation is important to ensure compliance with their professional standards obligations and to protect architects from exposure to liability. However, architects may only be contracted to provide limited design documentation.

54. It should be noted, however, that one focus group participant suggested that some architects may use limited design documentation as a risk mitigation mechanism. There is no evidence that this is a generalised issue. Nonetheless, it is worth emphasising that the reliance on limited design documentation to mitigate risk may ultimately increase exposure to risk and could result in a breach of professional standards obligations.

55. Architects could benefit from more guidance about the significance of factors that can have an adverse impact on the client-architect relationship that are within their control and how those factors could be effectively mitigated. Raising awareness among sectoral stakeholders about factors that are outside architects' control could also enhance the client-architect relationship and outcomes for all parties.

Roles, responsibilities and obligations

56. A specific issue considered during the focus groups was whether architects' understanding of their obligations to clients is aligned with what clients and other sectoral participants understand those obligations to be. Misunderstanding on this issue could diminish trust, cause communication breakdowns, and lead to unmet expectations.

57. As context, the point was made during the focus groups that an architect's specific obligations to a client will depend upon the particular project and the architectural services that have been procured. Nonetheless, focus group participants were able to articulate in general terms what they consider to be architects' main obligations, which fall within the following broad categories:

- scoping and delivery of design services;
- management of the client-architect relationship;
- management of fees;
- regulatory compliance;
- contractual compliance; and
- risk management.

[12] Clause 1(a) of the Victorian Code. Clause 4(1)(a) of the NSW Code.

58. Comments made by focus group participants suggest that there isn't a common understanding of architects' main obligations to their clients because each stakeholder group represented in the focus groups referenced or emphasised different categories of obligations. This lack of common understanding could conceivably compromise the well-functioning of the client-architect relationship. Indeed, ambiguity about roles and responsibilities was identified by focus group participants as a factor that can have an adverse impact on the client-architect relationship. Moreover, such ambiguity could undermine architects' capacity to effectively advocate for the design process, aspects of the actual design, and their own interests in the context of a construction project if their role, responsibilities and obligations are not well understood.

59. Nonetheless, apart from risk management and contractual compliance, each category of architects' obligations identified by focus group participants is specifically governed by the regulatory frameworks applicable to architects. More specifically, architects must act with reasonable care, including in relation to the scoping and delivery of design services by architects.[13] Regarding the management of client-architect relationships, architects must have a written client-architect agreement in place and must comply with obligations about the context, manner and speed with which architects communicate with their clients.[14] In addition, architects must ensure that their fees are consistent with the client-architect agreement and that clients are provided with statements of account.[15] They must also ensure that they comply with all applicable laws.[16] Consequently, compliance by architects with their professional standards obligations will help to overcome at least some of the risks to the well-functioning of the client-architect relationship that might otherwise arise due to ambiguity about architects' role, responsibilities and obligations.

60. During the focus groups, clients' obligations to architects were not considered in detail as the focus was instead on architects' obligations to clients which are governed by the regulatory frameworks, whereas clients' obligations are not. Nevertheless, the point was made during the focus groups that the relationship between architects and their clients is a mutual one. Clearly, clients also have a role to play in ensuring a successful relationship with architects and bear responsibilities and obligations in the same way that architects do. Clarifying the client's role, responsibilities and obligations could help to enhance client-architect relationships.

61. The apparent lack of a clear and common understanding of respective roles, responsibilities and obligations of architects and clients may stem from the fact that these may change under some procurement processes. This indicates that more information is needed for sectoral participants on this issue, particularly in the context of different procurement processes.

[13] Clause 1(a) of the Victorian Code. Clause 4(1)(a) of the NSW Code.
[14] Clauses 4, 7 and 8 of the Victorian Code. Clauses 3, 6, 7, 12 and 15 of the NSW Code.
[15] Clause 6 of the Victorian Code. Clauses 6 and 11 of the NSW Code.
[16] Clause 1(b) of the Victorian Code. Clause 4(b)(ii) of the NSW Code.

Factors that affect communication between architects and clients

62. Effective communication between an architect and client is essential so that the client's needs are well understood, expectations can be clarified, decision-making can be facilitated, and the risk of disagreements and disputes is minimised. More importantly, clear and open communication throughout a project can help architects strengthen relationships with their clients and build trust, enhance client satisfaction and achieve project success. Communication and engagement between an architect and client are essential for fostering an open, positive, trusting and productive working relationship. In turn, this helps to ensure that expectations are managed, the project progresses smoothly, issues that arise are addressed in a collaborative manner, and the client's needs are met.

63. In the Systemic Risks Report, communication was singled out as a key facet of the client-architect relationship.[17] The Report finds that, even though communication is core to a successful client-architect relationship, there is evidence to indicate that poor communication between architects and clients is common.[18] There was general agreement among focus group participants about the importance of communication and engagement for a positive client-architect relationship.

64. Participants referred to differences in the scope, form and content of communication that is required from an architect as a project progresses. While the regulatory frameworks specify some aspects of an architect's communication obligations to the client, they do not contain the level of detail about communication requirements across the project delivery process mentioned by participants.[19] As a related issue, it was suggested during the focus groups that architects are likely to have strong skills in communicating about design, but may find communicating clearly about aspects of project delivery more complex even though these aspects are important for the client. The point was also made that architects' ability to discharge their communication obligations to their clients may be compromised if lines of communication with clients are unclear or limited. Architects could benefit from greater guidance about the details of their communication obligations and how clients' expectations regarding communication could be practically addressed.

65. In line with the mutuality of the client-architect relationship, which was discussed earlier in the report, the point was also made that clients need to listen more to architects. This implies that architects may need to be stronger advocates so that clients are more inclined to listen and be influenced by their views and advice. On this issue, various focus group participants stressed the importance of having a good fit between the architect and client and other stakeholders in order to be trusted and that architects need to be prepared to change key personnel if the relationship with the client is not working. Even though these personnel issues are not prescribed under the regulatory frameworks, it is at least arguable that architects need to address them as part of their obligation under those frameworks to have suitable skills and experience when undertaking a project.

[17] Systemic Risks Report, para. 84.
[18] Systemic Risks Report, paras. 84 – 89.
[19] Clauses 5, 7 and 8 of the Victorian Code. Clauses 3, 6, 12 and 15 of the NSW Code.

66. Given that communication issues are common in the provision of architectural services, more education and training about all aspects of communication between clients and architects could be beneficial, particularly in relation to project delivery and in the context of different procurement processes. Client-architect relationships could also be improved if clients are more aware of the impact of poor communication between architects and clients on project outcomes.

Use of a client-architect agreement to drive a positive client-architect relationship

67. The Systemic Risks Report notes the importance of client-architect agreements, which are mandatory under the Victorian and NSW regulatory frameworks, particularly because they can help shape the interactions between an architect and client.[20] However, the Report finds that there is room for improvement in relation to the documentation of client-architect relationships.[21] The focus groups were used to identify whether the obligation to have a client-architect agreement in place is well understood and to assess how these agreements are used in practice.

68. The focus group discussions indicated practices regarding client-architect agreements may vary among architects but, overall, there appears to be a lack of appreciation of the value of adopting and implementing a standardised client-architect agreement that is consistent with the regulatory frameworks. Participants' comments suggest that bespoke client-architect agreements are common in relation to both small and large construction projects, even though various standard-form client-architect agreements currently exist. The use of bespoke agreements could mean that they are not compliant with the regulatory frameworks and, moreover, they could result in undue exposure of architects to risk and liability and may deny protection to their clients that might otherwise be available under the standard form agreements.

69. The focus group discussion also indicated that, for larger projects, clients typically put forward the agreement for review by the architect rather than the other way around, including government clients. This is a concerning situation because an architect's statutory obligation to provide the client with an agreement that complies with the regulatory framework applies regardless of the scale of a project or the type of client and clients may need to be educated about this requirement. As for smaller projects, focus group participants suggested that architects do not invest sufficient enough time and effort to explain the agreements to their clients. This could translate into a lack of understanding about roles and responsibilities and, as previously mentioned, this could destabilise the client-architect relationship.

70. A better understanding of the drivers for the preference of bespoke contracts for small and large projects could help to identify how greater uptake of standardised contracts that are compliant with the regulatory frameworks could be achieved. More consideration may be needed of tools that could be used to encourage the use of standardised agreements, such as a standardised description of design services. Further, architects themselves need to adopt a proactive approach in all procurement processes to ensure that the client-architect agreement complies with the regulatory framework.

[20] Systemic Risks Report, para. 90. Clause 4 of the Victorian Code. Clause 7 of the NSW Code.
[21] Systemic Risks Report, para. 111.

Impact of fee structures on client-architect relationships

71. Transparent fee structures can help manage client-architect relationships by clarifying the fees payable for particular design services, the deliverables that can be expected at each stage of the project for particular fees, and additional services that may incur extra costs. The Systemic Risks Report discusses how the approach to project costing and architects' fees can have an adverse impact on client-architect relationships.[22]

72. Various aspects of architects' fees are regulated under the Victorian and NSW Codes. Under both Codes, the client-architect agreement must set out how professional fees and costs of architectural services will be calculated,[23] reasonable estimates of disbursements (where possible),[24] and a requirement that the architect must inform the client how a change or amendment to services will affect the professional fees and costs for the services.[25] The Victorian Code further provides that fees and costs should not exceed the fee structure specified in the client-architect agreement,[26] whereas the NSW Code provides that the cost of architectural services should reflect the fee structure specified in the agreement and accurately reflect the amount of work done or to be done.[27] However, the regulatory frameworks do not prescribe the way in which fees are to be calculated.

73. During the focus groups, various fees structures were discussed to identify whether and how they could compromise client-architect relationships. The focus group discussion indicated that the fee structure will be dictated by a range of factors, including the type of project, client and design services that are required. However, in general, fixed fees are likely to be preferred by clients because they provide relative cost certainty, whereas fees that are based upon a percentage of construction costs are likely to be favoured by architects because they can enable cost-recovery for inflation and unforeseen developments that can occur during a project. Participants indicated that percentage fees may destabilise client-architect relationships because of the cost uncertainty that they imply. Nevertheless, fixed fees are onerous for architects because they involve a detailed specification of services that need to be costed. Fixed fees also need to anticipate and provide for inclusions and exclusions, which may be difficult to predict at the commencement of a project.

74. There may be scope for architects to improve their capacity to demonstrate their value to clients through different fee structures. The use of standardised specifications of services could help alleviate the burden on architects when setting fixed fees. By way of context, reference was made during the focus groups to the RIBA Plan of Work, which organises the process of briefing, designing, constructing and operating building projects into eight stages and explains the stage outcomes, core tasks and information exchanges required at each stage.[28]

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[22] Systemic Risks Report, paras. 98 – 104.
[23] Clause 4(2)(e) of the Victorian Code. Clause 7(2)(d) of the NSW Code.
[24] Clause 4(2(f) of the Victorian Code. Clause 7(2)(e) of the NSW Code.
[25] Clause 4(2)(j) of the Victorian Code. Clause 7(2)(i) of the NSW Code.
[26] Clause 6(b) of the Victorian Code.
[27] Clause 7(3) of the NSW Code.
[28] The RIBA Plan of Work can be accessed here: https://www.architecture.com/knowledge-and-resources/resources-landing-page/riba-plan-of-work.

Education and training to enhance client-architect relationships

75. There were a range of issues identified by participants during the focus groups that may require further education in order to improve client-architect relationships, including:

- Type and scope of services provided by architects
- Communication about roles and responsibilities
- Risk management and negotiation skills
- Listening skills
- Valuation of services
- Project delivery

76. These areas are linked to a number of issues that were flagged as having the potential to compromise the well-functioning of the client-architect relationship, and have been discussed above. More generally, the focus group discussion suggests that architects are looking for more guidance about what a good client-architect relationship looks like in practice. Architects could benefit from more education about how their regulatory obligations can be used to forge positive client-architect relationships. Case studies for architects and clients to highlight factors that lead to positive relationships in different procurement and project contexts would be useful.

D. Concluding remarks

77. The deep dive into client-architect relationships and agreements has revealed that there is a need and scope for further enhancement of client-architect relationships and the use of client-architect agreements. These enhancements will assist architects to comply with their professional standards obligations under the regulatory frameworks.

78. A good client-architect relationship requires commitment and attention to the relationship throughout the process of procuring and providing architectural services, ranging from brief preparation to design documentation and ensuring regulatory compliance because a variety of factors can destabilise the relationship during this process.

79. Even though sectoral participants appear to recognise the important contribution that architects can make to good quality built outcomes, the specific roles and responsibilities among project participants are not well understood, particularly in the D&C context. This could compromise the well-functioning of relationships, especially between the architect and client. More information is needed for sectoral participants on roles, responsibilities and obligations of architects as well as their clients.

80. Sound communication between the architect and client is critical for a good relationship, yet this is an area where there is scope for improvement both by the architect (particularly in relation to project delivery) and by the client (to ensure that clear lines of communication are in place and working effectively). The sector could benefit from a better understanding of the different facets of communication between architects and their clients and how they can be employed to enhance outcomes.

81. There is also evidence to indicate that bespoke client-architect agreements are common and these agreements are not being used effectively to manage client-architect relationships and associated risks for both small and large-scale construction projects. Architects need to take a proactive approach to comply with their obligations regarding client-architect agreements in the context of all procurement processes.

7 DESIGN & CONSTRUCT PROCUREMENT

A. Background

82. There are various procurement methods that may be used for the engagement of architects and architectural services and the delivery of construction projects. Design and construct (**D&C**) procurement is a project delivery method where a single entity – typically a construction firm or contractor – is responsible for both the design and construction phases of a project. The appointment of the contractor is preceded by initial or partial design work that is carried out by an architect for the client in order to obtain planning or development approval from the relevant authority. The contractor is then appointed to deliver the project. By assuming responsibility for design and construction, the contractor agrees to deliver the project within the agreed budget and schedule, although risks associated with delivery of the project are typically transferred by the contractor under contract downstream to consultants and other sub-contractors. Centralising responsibility in the contractor for design and construction can, in theory, increase efficiency and reduce project delivery time and costs.

83. A novated design and construct (**novated D&C**) contract is a variant of the D&C procurement model. The contract between the client and architect for an initial design for the construction project is subsequently novated to the contractor; in other words, the contractor steps into the shoes of the initial client through a deed of novation and becomes responsible for overseeing or coordinating finalisation of any outstanding design work. Under the novated D&C procurement model, the role of the architect evolves from initially being the primary designer for a construction project with a direct relationship with the original client to subsequently being part of a broader design team that is engaged by the contractor to provide design services for the project with less direct interaction with the original client.

84. The Systemic Risks Report deals with procurement models, including D&C procurement.[29] It notes that the D&C procurement model and, particularly, the novated D&C model, is the widely preferred method to procure construction projects across many countries, including Australia.[30] The Report explains how the D&C model can lead to adverse outcomes for architects, including the imposition of unfair contractual terms, increased exposure to unreasonable responsibility and risk, and compromising architects' ability to discharge their professional standards obligations.[31] In addition, it discusses how architects' role in construction projects can be marginalised when D&C procurement is used[32] and finds that the model can lead to the imposition of disproportionate responsibility on architects, reduce the scope of their role in construction projects and expose them to undue risk.[33] This chapter contains an analysis of the key issues discussed during the focus group deep dive into D&C procurement.

[29] Chapter 4 of the Systemic Risks Report ("Procurement Models").
[30] Systemic Risks Report, para. 54.
[31] Systemic Risks Report, paras. 57 – 64.
[32] Systemic Risks Report, paras. 65 – 68.
[33] Systemic Risks Report. Para. 71.

B. Key issues and findings

85. The focus group deep dive into D&C procurement considered how architects can be supported to overcome challenges and mitigate risks in the D&C context. The key issues that were discussed by focus group participants during the focus groups for this theme are summarised in Table 2 together with the main findings reached by the Steering Committee.

Table 2. Summary of key issues and main findings for focus group deep dive into D&C procurement

	ISSUES	FINDINGS
1.	› What impact does D&C procurement have on the design process?	› Lending institutions may require the use of D&C procurement for some construction projects. Yet, the combination of the client's cost and time imperatives, complexity of relationships and lines of reporting, siloing of functions and unfair contractual arrangements that can arise when D&C procurement is used can result in a shift in responsibility for, and control of, the design delivery process away from architects.
2.	› Which factors contribute to adverse outcomes for architects and the design process in the D&C context?	› There are various factors that can contribute to adverse outcomes for architects and the design process when D&C procurement is used, such as limits on the project budget and the lack of a sufficiently collaborative approach among all key stakeholders in the project delivery process.
3.	› What impact do D&C contracts have on the allocation of risk, liability and insurance?	› Contractual mechanisms are being used in the D&C context to unfairly allocate risk and responsibility to architects beyond what is reasonable and, potentially, beyond the common law duty of care.
4.	› What impact do D&C contracts have on built outcomes?	› D&C procurement can be used as a contractual tool to prioritise time and cost of a construction project, which can undermine the chance of achieving good quality built outcomes.
5.	› Which mechanisms can be used to mitigate the adverse impacts of D&C contracts on design and delivery of architectural services?	› Early collaboration between designers and those with trade intelligence is likely to deliver the best results from D&C procurement.

86. The next section of this chapter contains a discussion of the main insights and implications for this theme.

C. Insights and implications

Impact of D&C procurement on the design process

87. The Systemic Risks Report refers to the AIA Novation Contract Survey (2019) relating to Victoria as well as other sources which suggest that architects' ability to deliver quality architectural services may be hampered in the novated D&C context.[34]

88. During the focus groups, participants were asked a number of questions to obtain insights about the impact of D&C procurement on the design process, including the manner in which architectural services are provided by an architect, and on the final design. In summary, participants identified the following inter-related issues in response to those questions:

- *De-prioritisation of the design process*: Time and cost pressures that exist in the context of D&C procurement in order to deliver a project on time and within budget may mean that design is de-prioritised. This may occur by limiting the scope of design services to an early schematic concept without commitment to detailed design documentation.
- *Speed of the design process*: The time imperatives implicit in D&C procurement mean that the design process may proceed more quickly than might otherwise be the case.
- *Limited design documentation*: Under D&C procurement, documentation is only completed to a stage required by the initial client; the extent of further design documentation that is required may be determined by the contractor. The level of design detail required at the time of novation, which may be limited, may affect the extent to which the original design intent is respected through the construction process. The contractor may be left to address gaps in the design documentation during the construction process.
- *Inadequate contact with client*: When responsibility for design is transferred from the architect to the contractor following novation, the consequent loss of direct contact between the architect and initial client means that the architect may not have a clear sense of the client's position on specific design issues, including proposed contractor changes, and may be unable to control or guide project outcomes to ensure the client's objectives are achieved in the built outcome.
- *Lack of collaboration and integration of design*: Following novation, siloing may occur among the various design consultants, which may impede their ability to collaborate and may consequently compromise development of a design that comprehensively and effectively reflects the views of the various design consultants.
- *Use of building designers to take over design*: Following novation, the architect may be replaced with low-cost, less qualified building designers, which could compromise the integrity of the initial design.

[34] Systemic Risks Report, para. 57.

- *Failure to ensure design intent carried through to the built outcome*: Design consultants who are under the control of the contractor may have their site presence limited during the construction process, which may mean that design intent is not reflected in the final built outcome.
- *Limited fees for architectural services*: Architects' fees may be reduced because they are not responsible for project delivery. In addition, fees may be reduced by limiting site presence, which will likely increase architects' exposure to risk.
- *Limited budget*: After novation of a D&C contract, there be inadequate budget for design finalisation.

89. These points illustrate the various ways in which the features of D&C procurement may compromise the client-architect relationship, the quality of the design and design documentation and, consequently, the final built outcome. It is notable that these features of D&C procurement are largely out of architects' control but, nonetheless, could hinder them from discharging their professional standards obligations – particularly those that relate to the management of the client-architect relationship and the obligations to act competently, professionally and with reasonable care.[35] In addition, these features could also affect NCC compliance and the quality of built outcomes (this issue is discussed in more detail below in Chapter 8 on Compliance with the National Construction Code).

90. When considered in this light, mechanisms to ensure that architects retain adequate control over the design process and are able to protect design intent during the construction process are critically important in the D&C context. This could be achieved if architects were to assume the role of lead consultant with responsibility for development of the overall design concept to ensure that it meets the client's requirements and aligns with regulatory standards as well as responsibility for oversight of the translation of the design into the built outcome. Legislating to provide for this role could be worth considering; architects would need to accept the risk and responsibility associated with the role and would need to be paid accordingly.

91. The novated D&C procurement context also raises questions about whether and how an architect can discharge the various obligations to the client under the regulatory frameworks because, in this context, the architect practically has two clients – namely, the original client and the contractor – although contractually the architect is only accountable to the contractor after novation. The significance of this issue may be particularly acute when the interests of the original client and the contractor do not coincide. Further consideration of how an architect can successfully discharge the professional standards obligations under the regulatory frameworks in this context would be useful and could help the architect balance competing interests and objectives as between the client and contractor in practical terms.

[35] Clauses 2, 4, 5, 7 and 8 of the Victorian Code. Clauses 3, 4, 6,7, 12 and 16 of the NSW Code.

Factors that contribute to adverse outcomes for architects and the design process in the D&C context

92. Focus group participants identified the following main factors that could contribute to adverse outcomes for architects and the design process in the D&C context:

- *Selection of inappropriate procurement model by client*: Some clients may automatically opt for a particular procurement method without adequate reflection as to whether or not it is appropriate for the project.
- *Poorly prepared developer*: Developers may have unreasonable expectations for a project and/or are ill-prepared.
- *Profile and approach of contractor*: The extent to which design intent is adequately reflected in the final built outcome is likely to be linked to the profile and approach of the contractor, including how collaborative the contractor is, the extent of design oversight over the construction process, and the contractor's attitude towards quality.
- *Uncertainty created by D&C context*: D&C procurement may involve significant uncertainty, including in relation to relationships between project participants, design changes, and adjustments to deadlines and budgets.
- *Lack of adequate education and training about contract administration*: Graduates and early career architects may lack the competency to navigate D&C contracts.

93. A number of the above factors relate to the culture and approach among project participants – specifically, the client, developer and contractor. Architects cannot control these factors. Nonetheless, architects could benefit from training on the pros and cons of different procurement models, which models are best suited to particular contexts, how professional standards obligations can be complied with in each of those contexts, and the possible impact on built outcomes in each case. Broader education among sectoral participants about the impact of these cultural issues on built outcomes is essential if adverse outcomes are to be minimised in the D&C context.

94. As for the issue of uncertainty, this is inherent in many aspects of architectural practice. Even though the nature and extent of uncertainty may be amplified in the D&C context, the architect's professional standards obligations are not altered. Architects must employ strategic planning, thorough risk assessment and effective communication strategies to navigate uncertainty in this context so that their professional standards obligations can be discharged.

95. In relation to education and training, architects face a paradoxical situation in relation to obtaining experience about contract administration, particularly those early in their career. Engagement of architects for partial services under a D&C contract may limit experience in contract administration because the services will necessarily be confined to development of the initial design. While universities have a role to play by strengthening life-long education with more focus on procurement problems, adequate training and familiarisation with contract administration can only be obtained post-graduation in an actual project and under the supervision of experienced

architects. This opportunity may not be available to all graduates. In any case, training may be more effectively directed towards risk management in the context of different procurement models, including D&C procurement.

Impact of D&C contracts on allocation of risk, liability and insurance

96. The Systemic Risks Report refers to the AIA Novation Contract Survey (2019), which notes the unfair contractual terms to which architects could be subjected in the novated D&C context, particularly terms that place too much responsibility on architects while hampering their ability to advise or instruct and, thereby, ensure quality outcomes.[36] The Report also notes that the unfair allocation of risk could increase architects' exposure to liability[37] and the availability of insurance to manage risk may be affected by increased cost and limitations on coverage.[38] The discussion during the focus groups considered these issues in more detail.

97. More specifically, the focus group discussion highlighted an important dilemma faced by architects. The allocation of risk, liability and indemnities under D&C contracts can affect finance for a project; during the focus groups, developers suggested they have limited capacity to negotiate with the major lending bodies to deviate from standard contractual terms in D&C contracts. However, representatives from the insurance sector indicated that unfair contractual arrangements can also compromise architects' insurance coverage. In particular, they stated that insurance cover may not be available when contractual arrangements contain clauses that distort normal common law obligations applicable to architects, such as contractual indemnities, disproportionate allocation of liability, and attempts to contract out of liability. In turn, this could lead to negative outcomes for clients if a claim is made against the architect's insurance policy because the claim might not be covered. Without support and advocacy on their behalf, architects are unlikely to have sufficient leverage to negotiate more favourable terms in the D&C procurement context, even though these terms could affect insurance coverage.

98. Notably, representatives from the insurance sector also pointed out that D&C procurement can produce quality outcomes provided that there is an active commitment to quality, vigilant oversight, a good and experienced builder and a client/financier who is realistic about costs, as well as a good consultant team. They stated that, anecdotally, absence of these features in the D&C procurement context could give rise to more claims against architects, but there is no data to confirm this. By implication, architects could potentially face more claims if the cultural factors regarding the approach towards D&C procurement among key sectoral participants and the "mismatch" between the design and construction phases of a project are not effectively addressed.

[36] Systemic Risks Report, para. 61.
[37] Systemic Risks Report, paras. 159 – 163.
[38] Systemic Risks Report, paras. 169 – 172.

Impact of D&C contracts on built outcomes

99. The Systemic Risks Report finds that, in the D&C context, cost can be prioritised over quality and that this, in turn, has the potential to lead to bad relationships between various entities involved in project delivery and, ultimately can result in poor built outcomes.[39] This finding was borne out during the focus group discussion. Participants stated that D&C procurement can lead to good quality built outcomes, but only where "buildability" is prioritised over time and cost. It is notable that the same factors that could compromise the quality of built outcomes could also undermine architects' ability to comply with their professional standards obligations and may increase their exposure to legal risk. In light of these adverse outcomes, engagement with key lending institutions to highlight the risks that can arise in the D&C context could be helpful.

Mechanisms that can mitigate adverse impacts of D&C contracts on design and delivery of architectural services

100. The focus group discussion covered mechanisms that can help to mitigate the adverse impacts of D&C contracts on design and the delivery of architectural services, including the following:

- *Client engagement*: Clients need to remain involved throughout a project, engage with all parties on an individual basis, and make key decisions when required.
- *Early engagement of contractor*: Early engagement of the contractor can help enhance "buildability" by ensuring that construction and trade issues are accounted for in the initial design.
- *More collaboration and open lines of communication*: A more collaborative approach and open lines of communication among project participants and during the entire construction process can help align interests and outcomes.
- *Clarity about the design process and design documentation*: A clear design process and detailed documentation at the time of novation can help avoid poor built outcomes.

101. Core mechanisms to mitigate the adverse impacts of D&C contracts relate to communication, engagement and collaboration among the key protagonists in a construction project – namely, client, contractor and designers. Architects cannot control the way clients and contractors and other designers communicate and engage. However, there may be scope for industry advocacy about the benefits of more engagement among these participants. Sector-wide cultural change that focuses on early engagement and collaboration coupled with appropriate regulatory support through practitioner regulation may help to drive better outcomes from D&C procurement. One example that has proven to be highly successful is the NSW Public Works GC21 Contract that is based on co-operative contracting and enhanced communication.[40] A legislative response has been employed in NSW to drive a more integrated and collaborative approach to design and buildability through the *Design and Building Practitioners Act 2020* (**NSW DBP Act**), but other less interventionist options may be available.

[39] Systemic Risks Report, para. 71.
[40] See the buy NSW website for more information on this contract: GC21 Edition 2.

102. There may be benefit in clarifying the design process in the context of particular procurement processes. Existing resources about the design process, such as those prepared by the Australian Institute of Architects (**AIA**) and the Architects Accreditation Council of Australia (**AACA**) in the context of the National Standards of Competency for Architects (**NSCA**) could be used for this purpose.

Education and training to improve D&C outcomes

103. Overall, the full scope of education and training that is currently available to architects about D&C procurement and associated risks is unclear. A stocktake and analysis of current education and training about D&C procurement could be beneficial to ensure that future education and training is appropriately targeted. There may also be benefit in providing sectoral participants with case studies to illustrate good practice in the context of D&C procurement, including through the use of the AIA Code of Novation[41]. The case studies could also highlight alternative procurement models that demonstrate that the prevalence of D&C may not be justified, at least in certain contexts.

D. Concluding remarks

104. The deep dive into D&C procurement indicates that this model can work well and deliver quality built outcomes, but only if there is alignment of a number of factors, including a commitment to quality and an engaged and collaborative approach among key project participants, including the client, contractor, architect and other design consultants.

105. Various features of D&C procurement can result in a shift in responsibility for, and control of, the design delivery process away from architects, which can ultimately compromise the quality of built outcomes and may mean that architects are unable to discharge their professional standards obligations. High-level design documentation may be favoured under D&C procurement. This, coupled with limited on-site presence, may hamper the ability of architects to protect design intent during the construction process. These same features may also increase exposure of architects to risk and liability. Accordingly, mechanisms to ensure that architects retain adequate control over the design process and are able to protect design intent when the project is being built are critically important in the D&C context.

106. In addition, sector-wide cultural change that focuses on early engagement and collaboration among key project participants coupled with appropriate regulatory support through practitioner regulation may help to drive better outcomes from D&C procurement.

[41] The AIA Code of Novation can be accessed on the AIA's website: AIA Code of Novation.

8 COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE

A. Background

107. The National Construction Code (**NCC**) contains a set of technical provisions and performance requirements for the design, construction, and performance of buildings and structures in Australia. The goal of the NCC is to enable the achievement of nationally consistent, minimum necessary standards of safety (including structural safety and safety from fire), health, amenity and sustainability objectives efficiently.

108. There are two compliance pathways available under the NCC. Deemed-to-satisfy compliance involves following the prescriptive requirements in the NCC. These requirements specify minimum standards for various aspects of building design, construction and performance. The other compliance pathway involves the use of performance solutions, where NCC compliance is achieved by meeting performance objectives and functional requirements.

109. Compliance with the NCC is mandated by law through various state and territory building legislative instruments. Building approvals and occupation certificates cannot be issued unless the NCC has been complied with. Architects are legally obliged to ensure that their designs and specifications comply with the technical provisions and performance requirements in the NCC under the regulatory frameworks administered by the ARBs.[42]

110. The Systemic Risks Report discusses architects' compliance with the NCC, an issue raised in the Shergold-Weir Building Confidence Report (2018).[43] It considers the challenges that architects may face in complying with the NCC.[44] It also notes educational mechanisms to enhance understanding and application of the NCC[45] and touches on cultural issues within the architecture profession regarding compliance.[46] This chapter contains an analysis of the key issues discussed during the focus group deep dive into NCC compliance in relation to design and the provision of architectural services by architects.

[42] Clause 1(b) of the Victorian Code. Clause 4(1)(b)(ii) of the NSW Code.
[43] Systemic Risks Report, para. 135 – 140.
[44] Systemic Risks Report, paras. 136, 138 and 145.
[45] Systemic Risks Report, para. 137.
[46] Systemic Risks Report, paras. 141 – 144.

B. Key issues and findings

111. The deep dive into NCC compliance focused on the importance of enhancing architects' understanding of compliance with the NCC. The key issues that were discussed by participants for this theme are summarised in Table 3 below together with the main findings reached by the Steering Committee.

Table 3. Summary of key issues and main findings for focus group deep dive into NCC compliance

	ISSUES	FINDINGS
1.	› What is the link, if any, between NCC compliance and the quality of built outcomes?	› There is disagreement among sectoral participants about whether NCC compliance can drive quality in the final built outcomes because the NCC only establishes minimum standards in relation to certain built outcomes.
2.	› Which party(ies) are responsible for NCC compliance in a construction project?	› There is general agreement that responsibility for NCC compliance is a shared role among building sector participants involved in a particular project, but there is less clarity about the specific roles and responsibilities of each participant.
3.	› What is the scope of architects' obligations to ensure NCC compliance?	› Architects must ensure that their designs and design documentation are compliant with the NCC, but it can be difficult to demonstrate compliance if the level of detailed design documentation required by the client is limited, such as in the context of novated D&C procurement.
4.	› Which factors can compromise architects' ability to ensure NCC compliance of designs?	› Evidence from the focus groups indicates that it is more likely that design documentation does not clearly demonstrate NCC compliance than that the designs themselves are non-compliant with the NCC. › There are various factors that can compromise architects' ability to support NCC compliance of built outcomes, but they are mostly outside architects' control, particularly in the context of D&C procurement. › The NCC has gaps and limitations (such as limitations on accessibility of Australian Standards) that could also affect architects' ability to ensure NCC compliance.
5.	› What mechanisms are available to mitigate the risks of NCC non-compliance?	› There is a view among some participants that following the performance solution pathway under the NCC may deliver better built outcomes and may also mitigate the risks of NCC non-compliance, but demonstrating NCC compliance may be more challenging under this compliance pathway.
6.	› What action can be taken to raise the level of awareness among relevant parties of NCC compliance obligations?	› The NCC may be a challenging document for some architects to read, interpret and apply in practice.

112. The next section of this chapter contains a discussion of the main insights and implications for this theme.

C. Insights and implications

Link between NCC compliance and quality built outcomes

113. As a threshold matter, focus group participants were asked to discuss the relationship, if any, between NCC compliance and quality built outcomes. There was disagreement about this issue among participants.

114. A number of participants made the point that the NCC only establishes minimum standards. It was also suggested that, while there may be an assumption that NCC compliance will ensure quality built outcomes, in fact, good design and quality built outcomes depend upon matters that go beyond what is required under the NCC. Other participants stated that the performance solution pathway under the NCC could be used to surpass the minimum standards reflected in the deemed-to-satisfy provisions of the NCC in order to achieve quality built outcomes.

115. These comments highlight the apparent ambiguity among some sectoral participants about the outcomes that the NCC is designed to achieve, particularly in relation to the quality of built outcomes. This ambiguity may affect architects' understanding of the NCC. It could also affect the way the NCC is used in the context of designs and, more particularly, which compliance pathway is followed. There is work to be done to determine how NCC compliance can be used to ensure quality built outcomes, particularly in the context of different procurement processes.

Responsibility for NCC compliance

116. Some time was spent during the focus groups to gain an understanding of roles and responsibilities in relation to ensuring NCC compliance. Various participants observed that responsibility for NCC compliance may vary depending upon the procurement method used, the project type and the parties involved. This implies that responsibility for NCC compliance may differ from project to project, which may cause ambiguity and confusion unless clearly documented for each project. In this light, there is a need for more clarity about responsibility for NCC compliance in the context of particular procurement processes and in other contexts where responsibility may change.

117. There was general agreement among focus group participants that responsibility for NCC compliance is a shared role among project participants, but there is less clarity about specific roles and responsibilities of each participant. Some focus group participants indicated that certain parties in a project have defined roles regarding NCC compliance – specifically, the point was made by one participant that architects are responsible for NCC compliance of relevant aspects of the design, builders are responsible for NCC compliance of the construction works, building surveyors have ultimate responsibility to certify NCC compliance of the building project, and all parties collectively have responsibility to ensure NCC compliance of the built outcome. However, other participants suggested that responsibility for NCC compliance can be allocated to any party. Representatives from the insurance sector who participated in the focus groups referred to the practice in the construction sector where responsibility for NCC compliance is allocated to parties for aspects of a construction project that are beyond their expertise and/or control, particularly in the context of certain procurement models. Insurance sector representatives commented that they

regularly see contracts that result in the unfair allocation of responsibility for NCC compliance from contractors to architects. This is concerning because it could mean that project participants, including architects, could be made responsible under contract for NCC compliance in relation matters that extend beyond their common law duty of care and expose them to undue risk.

118. Focus group participants also referred to “grey areas” regarding responsibility for NCC compliance. In particular, the interface between the provision of architectural services and the construction of a building may give rise to ambiguity about who is responsible for NCC compliance in the final built outcome. Such ambiguity could arise when design documentation is prepared by an architect and is then used by the builder to construct the building, with the builder improvising if the design documentation is not sufficiently detailed or unilaterally substituting aspects of the design. Responsibility for NCC compliance between the architect and builder could also be affected by the extent to which translation of the design documentation into the built outcome is overseen by the architect.

Scope of architects’ obligations to ensure NCC compliance

119. There was no dispute among focus group participants that architects must ensure that their designs and design documentation comply with the NCC. However, an important distinction was drawn between NCC compliance of a design and the demonstration of compliance of the design with the NCC. The point was implicitly made that, while architects are legally obliged to ensure that the design complies with the NCC, demonstration that the design complies with the NCC is not specifically required under applicable regulation. In fact, the governing requirements of the NCC refer to the evidence needed to show that the NCC requirements are met and the solution is "fit for purpose". It covers the use of materials, products, forms of construction and designs. Examples of evidence to be prepared and retained include certificates, reports, calculations and any other documents or information showing compliance with the NCC requirements.[47]

120. A number of focus group participants raised the related issue of the level of detail of design documentation. The point was made that insufficient detail in architectural documentation can compromise the delivery of compliant built outcomes. Building surveyors pointed to audit information indicating that insufficient design documentation can lead to non-compliant built outcomes. Yet, the point was made that the procurement model may dictate the level of design documentation that is required; for some projects the architect may only be required to provide the schematic design and further design and documentation may be undertaken by others. The question arises as to who should be held responsible for any NCC compliance issues in this scenario, particularly if the absence of detailed design documentation leads to building defects. The sector would benefit from greater clarity about the different levels of detail of design documentation, the possible consequences of each level of detail for project outcomes, and the process of interpreting and building in accordance with the design in each case. More analysis is also needed to determine whether limited design development requirements in the context of D&C procurement are more likely to lead to non-compliance with the NCC and/or more defects.

[47] Section A (Governing Requirements), Part A5 of the NCC – Documentation of design and construction.

121. Focus group participants also raised the issue of the interface between the architect's design services and the services provided by other design professionals, like engineers. The point was made that the architect is often the "glue" that holds all these professionals together and that, further, architects are responsible for coordinating other design disciplines and documentation, but this is not always clearly documented contractually. This is also a cause for concern because, once again, under these arrangements, the architect could inadvertently assume responsibility beyond the standard duty of care at common law and increase exposure to legal risk. Clarifying roles and responsibilities for NCC compliance among design professionals may help to address this issue.

Factors that can compromise architects' ability to ensure NCC compliance

122. Focus group participants identified various factors that can compromise architects' ability to ensure NCC compliance, including the following:

- *Procurement approach*: The procurement approach may limit architects' control, including over the interpretation of design documentation by the builder, and this may compromise NCC compliance in the built outcome.
- *Obligations regarding design compliance*: The obligation under the NSW DBP Act to issue a design compliance declaration may be challenging, particularly when architects are made responsible for other design professionals involved in a project.
- *Regulatory features of the NCC*: The NCC can be difficult to interpret and apply, does not comprehensively cover design issues (such as building materials), and its application can be hampered by obstacles to accessing Australian Standards that are referenced in the NCC.

123. Once again, these factors that can compromise architects' ability to ensure NCC compliance are largely beyond their control. The impact of the procurement approach on NCC compliance is likely to be largely linked to project priorities and compliance attitudes of the parties involved in a construction project, particularly the client and contractor. It is likely to be difficult for architects to help ensure NCC compliance of built outcomes once responsibility for, and control of, the design process is shifted away from them and/or they have limited oversight of the interpretation of designs in practice, which may occur in the context of D&C procurement.

124. There is clearly a need for better communication about how architectural documentation should be interpreted and applied on site to ensure NCC-compliant built outcomes. More work could also be undertaken to determine whether gaps and limitations associated with the NCC identified by focus group participants have an impact on NCC compliance and, if so, how these limitations could be practically overcome.

Mitigation of the risks of NCC non-compliance

125. During the focus groups, building surveyors suggested that the performance solution pathway under the NCC could be used to enhance the quality of built outcomes, but that sectoral participants may prefer the deemed-to-satisfy compliance pathway because compliance is easier to demonstrate. This implies that it may be more challenging to demonstrate compliance using the performance solution pathway compared to the deemed-to-satisfy compliance pathway, which may explain why this pathway is comparatively under-utilised, at least in relation to small-scale construction projects. Yet, during the focus groups on D&C procurement, it was suggested that D&C procurement leads to a "performance-based approach" in relation to the design because insufficient time may be allocated for the preparation of detailed design documentation. Greater guidance may be needed to illustrate how NCC compliance can be achieved using the performance solution pathway, particularly for design aspects that could lead to defects (such as waterproofing).

Enhancing awareness of NCC obligations

126. Focus group participants also discussed the level of awareness among architects of their NCC compliance obligations and considered action that could be taken to raise the level of awareness. Focus group participants suggested that there is no evidence that architects are unaware of their obligations to ensure compliance with the NCC. However, it was noted that small architectural practices may rely heavily on building surveyors or "**BCA consultants**" to verify compliance and, anecdotally, this may also be the case for some larger practices as well.

127. Such reliance may help architects discharge their obligation to comply with the NCC and to reduce architects' exposure to legal liability. However, it may also lead to limited awareness of the details of the NCC and may mean that compliance issues are not detected by reviewing architects. In turn, this may compromise architects' ability to advocate and defend their designs from a compliance perspective. Nonetheless, the use of BCA consultants in a more constructive manner, particularly to educate architects about specific NCC compliance issues, could mitigate this.

D. Concluding remarks

128. The deep dive into NCC compliance revealed some important issues that relate to architects' understanding of and compliance with the NCC. Specific roles and responsibilities to ensure NCC compliance are not well understood, particularly in the context of D&C procurement. In addition, the apparent ambiguity among sectoral participants about the outcomes that the NCC is designed to achieve, particularly in relation to the quality of built outcomes, may affect architects' understanding of the NCC and the way they practically use the NCC in the context of their designs.

129. Architects' ability to demonstrate that their designs are NCC-compliant may be compromised when the scope of design services procured from the architect is limited, such as in the D&C context. Design documentation that is not sufficiently detailed may lead to NCC non-compliance in the built outcome. Regarding the demonstration of compliance of design with the NCC, more education and guidance may be needed for architects regarding how this can be achieved through the current assessment methods under NCC. This will, in turn, reduce the risk of NCC non-compliance in built outcomes.

9 DISRUPTIVE CHANGE

A. Background

130. Disruptive change refers to a significant shift or transformation that fundamentally alters an existing sector, market, business model or societal norm. By changing the traditional ways of doing things, disruptive change can pose risks and challenges, but can also create opportunities. Disruptive change may be accompanied by uncertainty, ambiguity and unpredictability, making it difficult for stakeholders to anticipate and respond effectively to emerging threats or opportunities.

131. The Systemic Risks Report considers two sources of disruptive change that have and will continue to disrupt the market for architectural services – namely, climate change[48] and technological and innovative change.[49] The Report notes that these disruptive forces are likely to intensify competitive pressure for architects and the provision of architectural services.[50] However, they will also present new opportunities for architects.[51]

132. In relation to climate change, the Systemic Risks Report observes that architects will face more regulation resulting from initiatives to mitigate and adapt to climate change.[52] It also finds that architects providing "green" architectural services may face increased exposure to legal risk arising from a range of factors, including inadequate skills and expertise, use of untested designs and materials, and failure to explain to their clients what is involved in sustainable design.[53] Regarding technological and innovative change, the Report finds that developments within the sector like automation and modularisation, digitalisation and building information modelling (BIM) will change the nature and scope of architectural services that are required and, depending upon how architects respond, their capacity to discharge their professional standards obligations may be compromised.[54]

133. This chapter contains an analysis of the key issues discussed during the focus group deep dive into disruptive change. While the focus group discussion was focused primarily on disruptive change associated with climate change and technological change, other factors that could cause disruptive change were also discussed.

[48] Chapter 8 of the Systemic Risks Report ("Climate Change, Sustainability and the Transition to Net Zero").
[49] Chapter 9 of the Systemic Risks Report ("Automation, Digitalisation and Innovation").
[50] Systemic Risks Report, para. 44.
[51] Systemic Risks Report, paras. 199 and 204.
[52] Systemic Risks Report, paras. 186 – 189.
[53] Systemic Risks Report, paras. 190 – 199.
[54] Systemic Risks Report, paras. 205 – 211.

B. Key issues and findings

134. The focus group deep dive into disruptive change centred on how architects' preparedness to respond to disruptive change can be maximised. The key issues that were discussed by participants during the focus groups for this theme are summarised in Table 4 below, together with the main findings reached by the Steering Committee.

Table 4. Summary of key issues and main findings for focus group deep dive into disruptive change

	ISSUES	FINDINGS
1.	› How aware and prepared are architects for disruptive change associated with climate change and technological change?	› While there is a spectrum in the level of awareness and preparedness among architects to respond to disruptive change caused by climate change and technological change, there are likely to be many architects who are ill-equipped to respond to this change, particularly those in smaller practices and sole practitioners.
2.	› What are the main challenges faced by architects in responding to disruptive change?	› There are significant financial and practical imperatives within the construction sector that do not support a responsive approach to disruptive change.
3.	› How can architects' capacity to respond to disruptive change be improved?	› As the market for architectural services is highly competitive, the ongoing viability of practices that fail to build their capacity to respond to disruptive change may be compromised.
4.	› What are the implications of climate change for architects?	› Architects could miss out on the opportunities that climate change presents for architects because they are not sufficiently prepared.
5.	› What are the implications of technological change for architects?	› There is a lack of sectoral awareness and understanding of how technological developments will change the provision of architectural services, particularly emerging digital tools and AI.
6.	› What are the education and training needs to respond to disruptive change?	› There is a need for more education and training to help architects respond to disruptive change, including availing of the opportunities that disruptive change presents and mitigating the risks that disruptive change could entail.

135. The next section of this chapter contains a discussion of the main insights and implications for this theme.

C. Insights and implications

Architects awareness and preparedness for disruptive change

136. Focus group participants were asked how aware and prepared architects are for disruptive change, particularly climate change and technological change. Comments made by participants indicated that there is a spectrum in terms of the level of awareness and preparedness for disruptive change. Some architects may be focused on everyday practice and do not have time and resources to

respond to disruptive change. Various focus group participants suggested that some members of the profession may be more likely to follow the status quo rather than take the lead in responding to disruptive change. Other architects may be trying to lead the way by embracing disruptive change and are early adopters of new approaches and technologies. Overall, there are likely to be many architects who are not adequately prepared to respond to disruptive change so that opportunities can be availed of and risks are mitigated, particularly those in smaller practices and sole practitioners.

137. This is a concerning situation, because it could leave architects and their practices vulnerable to those who are actively looking to exploit opportunities that the market for architectural services currently presents – a risk that was specifically mentioned during the focus groups. A possible consequence of such a development is that new market entrants who are better prepared than architects to respond to disruptive change may, nonetheless, be less capable than architects to deliver design services in a manner that meets existing professional standards.

138. It is also notable that focus group participants emphasised that architects' awareness and preparedness to respond to disruptive change is tethered to the level of preparedness of the broader society in which they operate, as well as the specific sectoral participants with whom they interact in the construction projects. One participant candidly stated that unprepared contractors prefer to work with like-minded architects and other consultants. The underlying implication is that it is no wonder that architects as a whole may not be well-prepared for disruptive change because this is consistent with the current state of preparedness of the construction sector as well as society more generally.

139. Nevertheless, building architects' awareness of the sources of and implications of disruptive change for the profession and for the delivery of architectural services must be a priority. As suggested by focus group participants, the profession is potentially in the midst of a transformation that could affect what it means to be an architect in very practical terms. Architects need to be in a position to understand the nature of any transformation that may be underway as a result of disruptive change and what it means for them. Education and training should focus on enhancing architects' understanding of disruptive change and building practical skills so that they can respond to disruptive change in a cost-effective way.

Challenges faced by architects in responding to disruptive change

140. Focus group participants identified a range of challenges that architects face in responding to disruptive change, including the following:

- *Client's budgetary limitations*: Architects may be seen as an expensive option for design services; design solutions that are responsive to disruptive change may increase costs beyond clients' budgetary limitations.
- *Regulatory pressures*: Architects are already facing significant regulatory change within the construction sector, such as the NSW DBP Act, which may make it more difficult for them to respond to disruptive change on a voluntary basis.

- *Lack of adequate education, training and tools*: The framework for education and training for students and practitioners may not be capable of adjusting quickly enough to external disruptive change and tools that could assist with responding to disruptive change may not be readily available or too expensive.

141. Notably, architects have limited control over the above challenges. Nevertheless, complacency in the face of these challenges could leave architects in a vulnerable position. There are some tangible steps that could be taken. In particular, architects will need the skills to identify the opportunities that disruptive change can present in the context of a particular project. They will also need to build advocacy skills so that they can demonstrate the value of responding to disruptive change to key stakeholders.

142. Focus group comments about the burdensome impact of recent regulatory reforms illustrate the unintended consequences that reform can have. While the NSW DBP Act and similar reforms in other jurisdictions may help to enhance accountability of sectoral participants for building work and, thereby, reduce the risk of defective building work, the added regulatory burden that such reform may impose could inadvertently limit the capacity of the sector to respond to other risks, such as those associated with disruptive change. Architects will need to find a way to navigate their various regulatory obligations, while also investing in time and effort to better respond to disruptive change.

143. As for the adequacy of the education and training framework to enhance awareness and preparedness for disruptive change, the Systemic Risks Report finds that university curricula and training programs for architects need to be responsive to disruptive change affecting the market for architectural services.[55] Focus group comments support this finding and emphasise the need for a dynamic approach to education and training that keeps pace with external change.

Improving architects' capacity to respond to disruptive change

144. The discussion during the focus groups did not reveal any dramatic solutions that will easily enhance architects' capacity to respond to disruptive change. Rather, participants stressed the importance of self-reflection by architects in light of disruptive change so that they have a clear vision of their role in the evolving market for architectural services. They also emphasised the need for a commitment to continuous learning so that architects can keep abreast of disruptive change, but also so that they can become experts capable of solving problems as the market changes.

145. The opportunities presented by disruptive change will differ depending upon the profile and services offered by particular architectural practices. Architects may need assistance to ensure that their response to disruptive change accounts for their particular strengths and weaknesses. Specialisation of architectural services may be a cost-effective way for some practices to adapt to disruptive change.

[55] Systemic Risks Report, para. 224.

Responding to climate change

146. The Systemic Risks Report discusses some of the opportunities, risks and challenges associated with climate change.[56] There was a recognition during the focus groups that climate change presents a significant opportunity for architects and, more specifically, may help them differentiate themselves from other building designers. Participants suggested a range of areas where architects could build expertise, including whole-of-life-cycle building analysis, integration of reuse into building design, and design development that is appropriately tailored to local conditions and needs. Architects who take the time to understand and are responsive to changing market needs in light of the impacts of climate change are more likely to thrive.

Responding to technological change

147. The Systemic Risks Report also discusses some of the opportunities, risks and challenges associated with technological and innovative change.[57] Various focus group participants suggested that artificial intelligence (**AI**) and digital tools could have a significant impact on the market for architectural services. Particular concern was expressed about the impact on small practices. The point was also made that human involvement will continue to be critical in the context of the technical tools that are available, particularly in relation to understanding clients' needs and translating them into designs. However, without further analysis, it is unclear whether and how architectural practices need to change in order to keep pace with these developments. More information is needed about the likely impact of AI and digital tools on the market for architectural services so that architects are better equipped to respond.

Other types of disruptive change

148. During the focus groups, participants identified a broad range of disruptors other than climate change and technological change, including market instability and failure, over-regulation, geopolitical developments and skills shortages. It will be important for any initiatives to help enhance architects' awareness and preparedness for disruptive change to account for the spectrum of factors that could result in dramatic change for the profession.

Education and training

149. Focus group participants indicated that there is a need for more education and training to help architects respond to disruptive change, including availing of the opportunities that disruptive change presents and mitigating the risks that disruptive change could entail. Advice and support on accessing and using tools to respond to disruptive change in a cost-effective way would be useful.

[56] Systemic Risks Report, Chapter 8.
[57] Systemic Risks Report, Chapter 9.

D. Concluding remarks

150. Overall, the level of awareness and preparedness to respond to disruptive change associated with climate change and technological change is likely to be limited, particularly among those in smaller practices and sole practitioners. This is not surprising because this is consistent with the current state of preparedness of the construction sector as well as society more generally. Nonetheless, architects need to be in a position to understand the nature of any transformation that may be underway as a result of disruptive change and what it means for them. The profession may need to make adjustments to their services, and the way in which they are delivered, in light of these changes to ensure that professional standards can continue to be met, but also to avail of the opportunities that disruptive change presents.

10 CONCLUSION

151. This report is the culmination of focused work that has been undertaken by the ARBV and NSW ARB over the past two years to better understand systemic risks facing the Australian architecture sector. The primary objective has been to identify risks that could compromise architects' ability to comply with their professional standards obligations so that the ARBs can assists architects to effectively manage those risks. This work will consequently help protect the interests of clients and end-users, as well as the public interest more generally, and help avoid negative outcomes arising within the sector.

152. The work has led to the following main insights about systemic risks facing architects:

- *Client-architect relationships and agreements*: A better understanding of roles and responsibilities of architects and clients is needed as this could improve outcomes. Effective communication between architects and clients is crucial for a strong relationship, with room for improvement on both sides. The sector would benefit from a deeper understanding of the facets of communication and their impact on outcomes. Bespoke client-architect agreements appear to be widespread, but not utilised appropriately for managing relationships and associated risks in projects at various scales.

- *D&C procurement*: D&C procurement can result in the transfer of design responsibility away from architects, potentially compromising the quality of built outcomes and compliance with professional standards. D&C procurement often prioritises high-level design documentation, which, coupled with limited on-site presence, hinders architects' ability to oversee design intent during construction.

- *NCC compliance*: There is debate among industry participants about whether NCC compliance guarantees quality built outcomes due to its focus on minimum standards. Roles and responsibilities for NCC compliance, especially in the context of D&C procurement, are not well understood. Limited design scope may hinder architects from achieving NCC compliance, potentially leading to non-compliance in built outcomes due to design documentation that has limited detail. In addition, these limitations on the scope of design services affects architects' understanding of the NCC.

- *Disruptive change*: The architecture profession's overall awareness and readiness for disruptive change, especially regarding climate and technology, are likely to be limited. Practical challenges to adapt, including lack of resources, may mean some practices are better equipped to respond to change than others. Adjustments to service delivery may be necessary to maintain professional standards and seize opportunities arising from disruptive change.

153. Without effective action, these risks could lead to widespread negative outcomes. This report lays the foundation for a well-informed and coherent collaboration among sectoral participants to ensure that the systemic dimensions of the risks identified in the report are effectively addressed. Apart from the ARBs, there is also a role to play by industry bodies, education providers, research institutions, and other government agencies. In addition, various interventions are necessary to tackle different aspects of these risks, including CPD, guidance for architects and clients, stakeholder engagement, education, research, and legislative reform.

154. The ARBV and NSW ARB, as regulators of architects, will assist them in managing systemic risks and meeting professional standards. This will be done through a CPD program that is tailored to address the systemic risks outlined in this report, along with targeted guidance. The ARBs gratefully acknowledge action that has already been taken by stakeholders to respond to the recommendations in the Systemic Risks Report but stress that there is more work to be done, as highlighted in this report. Industry bodies are urged to further support architects through activities such as CPD, guidance, engagement, and research. Education providers should enhance programs to address identified educational gaps. Research bodies can contribute by analysing key issues, while government bodies should advance legislative reforms to mitigate systemic risks in the architecture sector. The ARBV and NSW ARB remain committed to collaborating with all stakeholders to enhance outcomes for architects, clients and end-users as well as other participants in the construction sector.

APPENDIX A: PARTICIPANTS

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Cockburn, Laura - Current Board member, NSW ARB, Immediate Past President AIA NSW Chapter, Director, Conrad Garrett

Curry, Mark - Current Board Member, ARBV

Drew, Richard - Current Board member, ARBV, Director, Drew Rudd Engineers

Marfella, Giorgio - Current Chairperson, ARBV, Senior Lecturer in Architecture & Construction, University of Melbourne

Grant, Michael - Former Board Member, NSW ARB, Director, Cornerstone Property Group

Jackson, Jocelyn - Current Board Member, NSW ARB, Director, TKD Architects

Lalich, Paul - Current Board Member (Legal member), NSW ARB, Partner, HWL Ebsworth

Lochhead, Helen - Current Board Member, NSW, ARB, Former Dean of UNSW, Faculty of the Built Environment

McLaughlan, Rebecca - Current Board Member, NSW ARB, Senior Lecturer, Professional Practice and Architectural Design, University of Sydney

Preuss, Stefan - Current Board Member, ARBV, Associate Victorian Government Architect, OVGA

Wills, Sally - Current Board Member, ARBV, Registered Builder, Small Change Design & Construction

APPENDIX C: FOCUS GROUP COMMENTS

This Appendix contains a structured summary of comments made by participants who were involved in the deep dive focus groups that were conducted as the precursor to the preparation of this Deep Dive Report. Each section contains a summary of comments made in relation to the four themes that were covered during the focus groups – namely, client-architect relationships and agreements, D&C procurement, NCC compliance and disruptive change. Where necessary, comments have been added by the Steering Committee to clarify misconceptions reflected in the focus group comments. However, it should be noted that there were only a small number of instances where such clarification was necessary.

While this summary of comments made by focus group participants has informed the findings in this report, it is important to note that the comments were made by a limited number of sectoral participants. The comments cannot be taken to be representative of the relevant stakeholder group, nor reflective of the views of the ARBs.

A. Client-architect relationships and agreements

Main obligations in a client-architect relationship

1. During the focus groups, participants were asked to identify what they consider to be architects' main obligations. The primary purpose of this question was to determine whether architects' understanding of their obligations to their clients is aligned with what clients and other sectoral participants understand those obligations to be.

2. As context, the point was made by clients/users that an architect's specific obligations will depend upon the particular project and architectural services that have been procured.[58] Nonetheless, focus group participants were able to articulate in general terms what they consider to be an architect's main obligations. While it is difficult to draw detailed insights from participants' individual responses, they were helpful in collectively revealing the issues that are considered most important in the context of a client-architect relationship.

3. The range of architects' obligations identified by the various stakeholder groups fall within the following broad categories:

   - scoping and delivery of design services;
   - management of the client-architect relationship;
   - management of fees;
   - regulatory and contractual compliance; and
   - risk management.

4. The main obligations identified by Victorian architects focused on two of the above categories – namely, the scoping and delivery of design services and management of the client-architect

[58] Client/UserFG3.

relationship.[59] NSW architects also identified obligations that fell within these categories, but additionally made reference to obligations concerning regulatory and contractual compliance as well as risk management.[60] Clients/users referred to obligations across a number of the above categories but emphasised those that related to scoping and delivery of design services as well as management of fees.[61] Academics emphasised risk management as a core obligation for architects.[62]

5. Developers/builders stated that client-architect relationships are, in general, managed well,[63] suggesting that architects are successful at discharging obligations to their clients. Clients/users agreed that, generally, architects are successful at discharging their obligations but noted that other sub-consultants may compromise architects' ability to discharge their own obligations.[64] Victorian architects suggested that the management of client-architect relationships have improved over time as architects have developed better processes and systems.[65]

6. It was also noted by clients/users that the relationship between architects and clients is a mutual one and that clients have obligations as well.[66] Clients' obligations were not considered in any detail during the focus groups as the focus was instead on architects obligations.

Factors that have an adverse impact on the client-architect relationship

The client's brief and the detailed design

7. Focus group participants discussed the role that the client's brief can play in ensuring a successful client-architect relationship, particularly to clarify design expectations. The client's brief outlines the client's vision, requirements, constraints and expectations for a construction project. It serves as a key document to guide the architectural design process, particularly to scope the design services that are required to deliver the client's vision, while complying with the client's requirements including about completion time and budget for the project.

8. Clients/users stated that competing views on the client and architect sides about the brief can undermine client-architect relationships.[67] Developers/builders agreed that getting the brief right and managing the client's expectations are critical for a successful client-architect relationship.[68] Victorian architects acknowledged that a client-architect relationship may be undermined by

[59] ArchVicFG3.
[60] ArchNSWFG3.
[61] Client/UserFG3.
[62] AcadFG3.
[63] Developer/BuilderFG3.
[64] Client/UserFG3. In particular, the point was made that sub-consultants may delay providing information to architects.
[65] ArchVicFG3.
[66] Client/UserFG3.
[67] Client/UserFG3.
[68] Developer/BuilderFG3.

misalignment in design expectations.[69] Clients/users also stated that an architect's lack of responsiveness to client's requirements can be detrimental.[70]

Engagement for partial services

9. When partial services are procured, an architect may be engaged to develop the initial design, but the builder, other type of practitioner or client may progress the project without further input from the architect.

10. The Systemic Risks Report refers to the practice of engaging architects for "partial services" in the context of residential and non-residential projects and states that it can expose architects to risk, particularly when the demarcation between the responsibilities of the architect and other parties involved in completion of the design services is unclear.[71] The issue of partial services was also raised during the focus groups. In particular, NSW architects stated that partial engagement for services can undermine client-architect relationships.[72]

Fee arrangements and variations

11. Academics stated that the scope of design services and associated fee arrangements must be clearly defined.[73] NSW architects agreed that there needs to be clarity regarding the fee arrangements, but stated that the architect's fee proposal must be sufficiently flexible to enable recovery of the costs of services provided by the architect.[74] Clients/users said that fees that do not adequately account for cost escalation and fee variations can destabilise client-architect relationships.[75] Developers/builders agreed that fee variations can adversely affect the client-architect relationship.[76] Building surveyors added that costly variations to rectify defects after construction is complete and the occupation certificate has been issued (e.g. waterproofing) can be damaging to the client-architect relationship.[77]

Inadequate skills and expertise

12. It is essential for architects to have adequate skills and expertise when delivering architectural services to their clients so that they can discharge their professional obligations under the regulatory frameworks administered by the ARBs but also to ensure that their designs comply with broader contractual and regulatory obligations that require buildings to be safe, functional, sustainable, cost-effective and aesthetically pleasing. Focus group participants discussed the importance of architects having adequate skills and expertise.

[69] ArchVicFG3.
[70] Client/UserFG3.
[71] Systemic Risks Report, paras. 33 – 34.
[72] ArchNSWFG3.
[73] AcadFG3.
[74] Client/UserFG3.
[75] Client/UserFG3.
[76] Developer/BuilderFG3.
[77] BuildSurvFG3.

13. Clients/users stated that architects need to know their skill set and, where appropriate, refuse projects if they do not possess the requisite skills.[78] They also stated that the client-architect relationship could be undermined when architects fail to alert clients that extra skills are needed.[79] Victorian architects acknowledged that the wrong skill set could undermine a client-architect relationship.[80] They also stated that skills and expertise may be compromised due to staff churn (particularly in large practices) and architects managing too many projects concurrently (particularly in small practices).[81]

14. Clients/users also emphasised adaptability and flexibility as important characteristics for an architect. They stated that architects need to be prepared to respond to external forces, including organisational politics and changes in the budget that may not have been anticipated when the budget was established.[82] Developers/builders added that architects need to be more adept at the practicalities of project delivery, not just design delivery.[83]

Ambiguity of roles and responsibilities

15. Clearly defined roles and responsibilities in any kind or relationship can reduce the likelihood of confusion, misunderstanding and conflict. Efficiency of processes and decision-making may be enhanced because each party understands their respective obligations, avoiding unnecessary duplication of effort or gaps in responsibilities. Risk may also be effectively managed by ensuring that important tasks are clearly assigned to a party and that this party is accountable for completion of that task.

16. During the focus groups, NSW architects noted that a lack of clarity of roles and responsibilities can lead to poor client-architect relationships.[84] However, developers/builders stated that understanding roles and responsibilities, particularly ensuring compliance in the context of novated D&C contracts, can be challenging.[85] Novated D&C contracts involve multiple parties, including the client, the original designer, the contractor who assumes responsibility for the design upon novation, and the sub-contractors engaged by the contractor following novation. The complex nature of these arrangements can lead to confusion about the roles and responsibilities of each party.

Onerous contractual obligations

17. A contract is a legal tool to govern the legal relationships between parties. It can help to foster and sustain a positive and constructive relationship between the parties by outlining expectations, roles and responsibilities of each party, including deliverables, timelines, and fees. It may establish protocols for communication between the parties by specifying lines of accountability and

[78] Client/UserFG3.
[79] Client/UserFG3.
[80] ArchVicFG3.
[81] ArchVicFG3.
[82] Client/UserFG3.
[83] Developer/BuilderFG3.
[84] ArchNSWFG3.
[85] Developer/BuilderFG3.

mechanisms for communication. It will typically include provisions dealing with dispute resolution to create a structured framework for addressing disagreements and conflicts, if they arise. The contract may also help to minimise uncertainty by clarifying each party's exposure to potential losses or liabilities.

18. In design and construct (**D&C**) contracts, the contractor typically assumes responsibility for both the design and construction aspects of the project. To mitigate potential risks associated with the design process, contractors may impose obligations on architects in relation to the completeness and accuracy of design documentation and architects may be required to provide warranties or indemnities against design errors or omissions. Architects may also be required to co-ordinate and integrate multiple design disciplines and may be required to produce design deliverables within compressed timeframes.

19. Clients/users acknowledged during the focus groups that bespoke client contracts may be onerous for small architecture practices to review and noted that the imposition of uncapped liability on architects can undermine client-architect relationships.[86] Victorian architects stated that bespoke contracts put forward by clients focus on risk allocation and management, rather than the architect's design obligations.[87]

Inefficient and ineffective communication and engagement

20. Communication and engagement between an architect and client are essential for fostering an open, positive, trusting and productive working relationship between the parties. In turn, this helps to ensure that expectations are managed, the project progresses smoothly, issues that arise are addressed in a collaborative manner, and the client's needs are met.

21. There was general agreement among focus group participants about the importance of communication and engagement for a positive client-architect relationship. Clients/users referred to the importance of transparency, openness, connection, good listening and communication, and trust for a well-functioning client-architect relationship.[88] NSW architects agreed that failure to be transparent and communicate clearly could compromise client-architect relationships but stated that there may be unreasonable expectations on both sides.[89] They added that a successful client-architect relationship depends upon the existence of honest engagement at the outset.[90] Victorian architects also agreed that poor communication can compromise a client-architect relationship.[91] Academics echoed that a key requirement for a well-functioning client-architect relationship is communication.[92] The point was also made by Victorian architects that communication goes both

[86] Client/UserFG3.
[87] ArchVicFG3.
[88] Client/UserFG3.
[89] ArchNSWFG3.
[90] ArchNSWFG3.
[91] ArchVicFG3.
[92] AcadFG3.

ways and clients need to listen to architects too, but may be unduly deferent to other parties such as planners, lawyers, marketing bodies etc.[93]

22. The discussion also covered lines of communication between the client and architect. Clients/users stated that the absence of clear lines of communication and limited opportunity for an architect to communicate with the client can undermine client-architect relationships.[94] They referred to a lack of ongoing communication with, and reporting to, the client, particularly in the context of novated D&C contracts as undermining client-architect relationships.[95] In that context, the contractor is typically the primary point of contact for the client, which can result in barriers to direct communication between architects and the client.

23. Focus group participants additionally discussed the manner in which architects engage with and communicate with clients and other stakeholders. Developers/builders stated that architects need to be trusted and confident in order to effectively advocate their position.[96] They suggested that it is important for the "right person" to represent an architectural firm to ensure that the architect can be an effective advocate, but this will depend upon the other stakeholders involved in the project, including the client and builder.[97] Clients/users also stated that failure to effectively manage stakeholder engagement, particularly for large public infrastructure, could undermine client-architect relationships.[98] Clients/users[99] and NSW architects[100] agreed that relationship incompatibility can undermine a client-architect relationship.

Lack of detail in design documentation

24. Insufficiently detailed documentation can lead to misunderstanding or misinterpretation of the architect's design intent by contractors, subcontractors, or other project stakeholders. This can lead to errors, omissions or substitutions during the construction process and can, in turn, lead to building defects. Incomplete or ambiguous architectural documentation can also lead to delays if clarification must be sought from architects. It can also lead to cost overruns if the contractor and subcontractors are forced to make assumptions or interpretations that result in additional work or changes to the project scope.

Building surveyors stated that more detail in design documentation could help to avoid defects that can lead to poor client-architect relationships.[101] NSW architects suggested that "under documentation" of standard essential details in design documentation may be a form of risk avoidance for architects as well as a tactic to reduce documentation. However, a range of essential

[93] ArchVicFG3.
[94] Client/UserFG3.
[95] Client/UserFG3.
[96] Developer/BuilderFG3.
[97] Developer/BuilderFG3.
[98] Client/UserFG3.
[99] Client/UserFG3.
[100] ArchNSWFG3.
[101] BuildSurvFG3.

details should be noted on the design drawings as well as in the specifications so that builders can easily find it and source it themselves.[102] Regulatory non-compliance

25. Clients rely on architects to ensure that the designs and design documentation that they deliver comply with all applicable regulatory requirements. By ensuring compliance with these requirements, architects can reduce the likelihood of disputes, claims, and legal liability but can also help maintain a good client-architect relationship. Conversely, failure to comply with regulatory requirements can undermine the client-architect relationship because addressing non-compliance can result in costly variations and delays, which could jeopardise the viability and overall success of the project.

26. Developers/builders stated that compliance issues can lead to a break down in client-architect relationships.[103]

Factors that can affect communication between architects and clients

27. By way of context, clients/users noted that there are multiple levels of communication between an architect and client, including oral communication, drawn communication and written communications.[104] Academics added that effective communication by an architect needs to be understood as a continuum that relates to design intent so that architects can communicate about design outcomes, and value, as well as the status of a project.[105] Victorian architects added that the level of communication needs to be tailored to the client and project.[106] NSW architects stated that learning how to effectively communicate with clients comes with experience.[107]

28. The following main factors were identified as helping to enhance effectiveness of communication:

- *Brevity*: Clients/users stated that brevity of communication is important.[108]
- *Relevance and usefulness*: Clients/users noted the volume of information associated with project delivery and stated that it is important for architects to know how to triage information so that clients receive the right information at the right time.[109] They also stated architects need to be able to explain the rationale for a proposed approach to their clients, rather than merely describing the approach.[110]

[102] ArchNSWFG3.
[103] Developer/BuilderFG3.
[104] Client/UserFG3.
[105] AcadFG3.
[106] ArchVicFG3.
[107] ArchNSWFG3.
[108] Client/UserFG3.
[109] Client/UserFG3.
[110] Client/UserFG3.

- *Regularity*: NSW architects stated that regular communication is important for a well-functioning client-architect relationship.[111] Victorian architects agreed that this is important, even when there is nothing specific to update but work is continuing in the background.[112]

- *Responsive*: Clients/users stated that architects need to be prepared to be flexible in their thinking and responsive to the views of the client and other stakeholders.[113] A collaborative approach is very important; team members should be changed on the client and architect sides if communication and engagement is not working.[114] However, Victorian architects noted that effective communication may be challenging in the context of complex projects where there are a number of stakeholders involved.[115] Clients/users noted that architects may be educated about how to communicate about design services but less about understanding and listening to clients, particularly where there are broad stakeholder groups.[116]

- *Open*: Focus group participants highlighted the importance of open and frank communication. Developer/builders stated that an architect's failure to be frank and up front with the client about bad news may prevent issues from being resolved expeditiously and may destabilise the client-architect relationship.[117] Victorian architects conceded that architects may be reluctant to deliver bad news and can knowingly or unknowingly withhold bad news from the client.[118] Clients/users added that architects need to be trained about how to deliver bad news.[119]

The impact of client-architect agreements and their use on client-architect relationships

29. The Systemic Risks Report notes the importance of client-architect agreements, which are mandatory under the Victorian and NSW regulatory frameworks, particularly because they can help shape the interactions between an architect and client.[120] However, the Report finds that there is room for improvement in relation to the documentation of client-architect relationships.[121] The focus groups were used to identify whether the obligation to have a client-architect agreement in place is well understood and to assess how these agreements are used in practice.

30. Clients/users stated that the client-architect agreement, and the level of engagement needed with the client-architect agreement, need to be tailored to the particular project.[122] Clients/users also pointed out that the client-architect agreement is typically put forward by the architect for small

[111] ArchNSWFG3.
[112] ArchVicFG3.
[113] Client/UserFG3.
[114] Client/UserFG3.
[115] ArchVicFG3.
[116] Client/UserFG3.
[117] Developer/BuilderFG3.
[118] ArchVicFG3.
[119] Client/UserFG3.
[120] Systemic Risks Report, para. 90.
[121] Systemic Risks Report, para. 111.
[122] Client/UserFG3.

projects and by the client for larger projects.[123] They added that, for small projects, the client-architect agreement will typically only be read or referred to at the beginning of a project but helps to establish the framework for the project; this should be used as an opportunity to outline the work, the key stages, the way work will be undertaken, and potential risks and issues at each stage, whereas for larger projects, where the agreement is put forward by the client, the client needs to walk the architect through the agreement.[124]

Client-architect agreements for smaller projects

31. In relation to client-architect agreements for small projects, NSW architects stated that many architects do not use the standard client-architect agreements that are available; for smaller projects, those agreements may be perceived as too lengthy and for larger projects they may be perceived as not client-centric enough. This may lead architects to draft their own agreements.[125]

32. NSW architects stated that architects can have a better relationship with their clients if they take the time to explain the details of the client-architect agreement so that clients have a better understanding of the work and process.[126] NSW architects added that the client-architect agreement is not referred to enough during the course of a project and this may mean that the client does not have a clear recollection of roles and responsibilities.[127]

33. This sentiment was echoed by Victorian architects who suggested that it may be worth reading through the client-architect agreement with the client, clause by clause, to make sure that they understand what it means.[128] Victorian architects added that a user guide for client-architect agreements could be helpful for architects to explain to their clients what contractual terms mean.[129]

Client-architect agreements for larger projects

34. Regarding client-architect agreements for larger projects, clients/users noted the importance of these agreements to establish the framework for the project and should be used as an opportunity to outline the work, the key stages, the way work will be undertaken, and potential risks and issues at each stage.[130] However, clients/users suggested that the client-architect agreement is not well read by the architect and the client; the agreement tends to be referred to when things are "going off the rails"; this can disadvantage the architect by not facilitating compliance.[131]

[123] Client/UserFG3.
[124] Client/UserFG3.
[125] ArchNSWFG3.
[126] ArchNSWFG3.
[127] ArchNSWFG3.
[128] ArchVicFG3.
[129] ArchVicFG3.
[130] Client/UserFG3.
[131] Client/UserFG3.

35. Participants also noted that bespoke rather than standardised contracts are typically used for larger projects. Clients/users also noted that AS 4122 General Conditions of Contract for Consultants does not adequately deal with novation, which then opens all aspects up to negotiation when novation is proposed and, in turn, leads to bespoke rather than standardised contracts.[132] However, they also noted that the AIA Code of Novation and Deed of Novation helps to address some of the issues facing architects in the novated D&C context.[133]

36. Victorian architects stated that bespoke contracts put forward by clients pose risks for architects.[134] These agreements tend to focus on risk allocation and management and less about the detailed parameters of the architect's design obligations.[135] Clients/users acknowledged that the imposition of uncapped liability that may occur under these types of client-architect agreements is unfair, although many architects are forced to accept it to win work.[136] Clients/users suggested that architects may need to run these types of client-architect agreements past their insurers to understand their exposure to liability on a case-by-case basis and negotiation with the client may ensue.[137]

37. Victorian architects added that, in the novated D&C context, these contracts may not provide enough protection for architects, because they do not adequately reflect the shift in roles and responsibilities; a standard contract for this context would be useful.[138] Developer/builders agreed that that client-architect obligations can change during a project, such as in the novated D&C context, which may necessitate changes to client-architect agreements but the agreements do not always keep pace with changes in roles and responsibilities.[139] They added that, in this context, contractors often water down the requirement in the client-architect agreement for an architect to directly report to the client following novation to avoid having a situation where there are two clients (i.e. the original client and the contractor).[140]

Tools to enhance effectiveness of client-architect agreements

38. Clients/users suggested that the most important part of the client-architect agreement is the detailed schedule of services and the timeline.[141] Victorian architects noted that the Royal Institute of British Architects in the UK (**RIBA**) has prepared a detailed "Plan of Work" that specifies types of design services and could be used to prescribe the scope of design services in the context of a client-architect agreement.[142] The RIBA Plan of Work[143] describes architectural design services for eight

[132] Client/UserFG3.
[133] Client/UserFG3.
[134] ArchVicFG3.
[135] ArchVicFG3.
[136] Client/UserFG3.
[137] Client/UserFG3.
[138] ArchVicFG3.
[139] Developer/BuilderFG3.
[140] Developer/BuilderFG3.
[141] Client/UserFG3.
[142] ArchVicFG3.
[143] Information about the RIBA Plan of Work can be found on RIBA's website: https://www.architecture.com/knowledge-and-resources/resources-landing-page/riba-plan-of-work.

stages of a project, including briefing, designing, constructing and operating building projects. The Plan of Work explains the core tasks, information exchanges and core outcomes for each stage. RIBA has also published the Plan of Work Overlays, which provide detailed guidance on specific design and built environment considerations, such as security, engagement and "smart buildings."

39. Academics also noted that a calculator has been developed by the Association of Consulting Architects Australia (**ACA**) that could be used to help architects understand the relationship between the scope of services, hours to be worked and fees for documentation in the client-architect agreement.[144] The ACA's "Architects' Time Cost Calculator" (**ACA Calculator**) [145] is a tool designed to help architectural practices to assess the time and costs involved in providing architectural services for a range of building types. The ACA Calculator combines information about overheads, costs, expertise and project particulars with historic data about required hours to generate a suggested fee. The ACA Calculator is also a benchmarking tool, enabling practices to compare the office overheads of similar sized practices with their own. The ACA Calculator seeks to ensure that architects are better informed about the real time and costs associated with projects so that they are in a better position to negotiate fair and competitive fees that are reflective of the value of their services, while ensuring that they adequately cover their costs and meet their professional obligations.

The impact of fee structures on client-architect relationships

40. Transparent fee structures can help manage client-architect relationships by clarifying the fees payable for particular design services, the deliverables that can be expected at each stage of the project for particular fees, and additional services that may incur extra costs. The Systemic Risks Report discusses how the approach to project costing and architects' fees can have an adverse impact on client-architect relationships.[146] The Report finds that client-architect disputes can arise as a result.[147]

41. During the focus groups, various fees structures were discussed to identify whether and how they could compromise client-architect relationships. Clients/users noted that the appropriate fee arrangement will be linked to the type of project; there is no one-size-fits-all.[148] NSW architects added that, apart from the type of project, the type of client may also affect the appropriate fee approach.[149]

Percentage fees

42. Clients/users stated that percentage fees are simple and easy to use for smaller scale projects; they are harder to make work where there is a fixed budget for larger projects but can be used to

[144] AcadFG3.
[145] Information about the ACA's Architect's Time Cost Calculator can be found on the ACA's website: https://aca.org.au/architects-time-cost-calculator/.
[146] Systemic Risks Report, paras. 98 – 104.
[147] Systemic Risks Report, para. 111.
[148] Client/UserFG3.
[149] ArchNSWFG3.

estimate costs/as a guide.[150] Developers/builders stated that if a percentage fee is used, there should be clarity regarding the trigger for increase in fees in order to reduce the risk of conflict.[151] Clients/users suggested that percentage fees could be used with a sliding scale (i.e. the percentage applies to particular ranges of construction costs, but progressively reduces as construction costs increase).[152]

43. Victorian architects stated that clients want to understand how fees relate to the actual scope of services provided; this may not be obvious if percentage fees are used.[153] However, they added that, clients are generally reluctant to accept this type of fee, particularly for large projects where the budget is fixed.[154] Victorian architects stated that percentage fees can be useful to ensure that inflation is accounted for.[155]

44. Victorian architects noted that percentage fees may erode the client-architect relationship.[156] NSW architects elaborated that, apart from destabilising the client-architect relationship, percentage fees may lead to arguments and disputes.[157]

Fixed fees

45. Clients/users stated that, from the client's perspective, an accurate estimate of design costs is desirable and should be done as a lump sum or, for smaller projects, on the basis of an hourly rate.[158] Victorian architects noted that fixed fees are increasingly required for government projects and for private commercial projects.[159]

46. Victorian architects added that fixed fees rely on fully scoping the services, but this places significant burden on the architect to understand the scope of services up front.[160] They added that specifying inclusions and exclusions is important in the context of fixed fees.[161] Clients/users explained that a detailed schedule of services to determine fees involves a lot of work and may delay conclusion of an agreement. It may also be difficult to cost certain aspects of the work (such as work involving the development approval).[162] NSW architects also noted that a risk with fixed fees is scope creep; flagging scope creep early and providing the client with options can help overcome this risk.[163] If hourly rates are used, ongoing communication is needed to avoid bill shock for clients.[164]

[150] Client/UserFG3.
[151] Developer/BuilderFG3.
[152] Client/UserFG3.
[153] ArchVicFG3.
[154] ArchVicFG3.
[155] ArchVicFG3.
[156] ArchVicFG3.
[157] ArchNSWFG3.
[158] Client/UserFG3.
[159] ArchVicFG3.
[160] ArchVicFG3.
[161] ArchVicFG3.
[162] Client/UserFG3.
[163] ArchNSWFG3.
[164] ArchNSWFG3.

Other challenges with fee arrangements

47. Clients/users noted that the Australian Competition and Consumer Commission (**ACCC**) previously banned the architectural fee scales, but some architects are still informally using them.[165] Academics noted that there is research planned to examine the abolition of the architectural fee scales and to determine the impact over the past 20 years.[166]

48. Clients/users noted that there is a lot of scrutiny on the client side regarding compliance with the scope of services, variations and costs.[167] There may be many iterations in design documentation, and it may be difficult to accommodate all of these within an architect's fees.[168]

Education and training to improve client-architect relationships

49. There were a range of issues identified by participants during the focus groups that may benefit from further education in order to improve client-architect relationships.

Role and scope of services

50. NSW architects stated that there is scope for a better understanding of the type and scope of services provided by architects, regardless of procurement method and scale of a project.[169] Clients/users agreed that clients need to be educated to understand the work that goes into delivering design services and what the agreed fee covers.[170]

Communication and engagement

51. Academics stressed that it is important that students and graduates are capable of clearly communicating to the client what their responsibilities are and the limits of what they are able to do; this is being tackled at universities through implementation of the *2021 National Standard of Competency for Architects* (**NSCA**).[171] Academics further stated that architects need to have better risk management and negotiation skills, which will enhance their ability to communicate with their clients.[172]

Client/users stated that architects may be educated about how to communicate about design services but less about understanding and listening to clients, particularly where there are broad stakeholder groups.[173] They added that education for architects early in their careers about

[165] Client/UserFG3.
[166] AcadFG3.
[167] Client/UserFG3.
[168] Client/UserFG3.
[169] ArchVicFG3.
[170] Client/UserFG3.
[171] AcadFG3. The NSCA is administered by the Architects Accreditation Council of Australia (**AACA**). Information about the NSCA can be found on the AACA's website: https://aaca.org.au/national-standard-of-competency-for-architects/2021nsca/.
[172] AcadFG3.
[173] Client/UserFG3.

stakeholder engagement, conflict management and having difficult conversations would be useful.[174]Value of services

52. Academics stressed that architectural students need to be educated about how to value their work and understanding how long it takes to do things is very important.[175] They noted that the ACA Calculator helps price architectural services, and accounts for project complexity and risk. It provides benchmark fees for costing particular types of architectural services.[176]

Project delivery

53. Academics stated that there should be more emphasis on education about the "nuts and bolts" of a project.[177] They stated that education is needed to help architects negotiate and manage bespoke client-architect agreements.[178]

Role of the ARBs to improve client-architect relationships

Advocacy about value of architects

54. There was some debate during the focus groups about whether the ARBs have a role in advocating on behalf of architects. NSW architects stated that the ARBs could help to articulate the value offered by architects.[179] Clients/users agreed that architects should be assisted to better communicate their value.[180]

55. Academics also stated that the ARBs could advocate for higher standards of education, not minimum competence.[181] Developers/builders added that the ARBs could bring all stakeholders together to clarify the desired outcomes from each stakeholder's perspective and to identify how those outcomes could be achieved.[182] However, Victorian architects stated that the ARBs should focus on consumer protection, rather than advocacy because that is done by other bodies.[183]

Education about the role and scope of architectural services

56. NSW architects stated that there may be a role for the ARBs to better communicate to the general public about what architects do and the specific services architects provide.[184] They suggested that an explanation of the architect's roles during the various phases of a project would be helpful, particularly in a visual format.[185] Clients/users added that information about roles, responsibilities

[174] Client/UserFG3.
[175] AcadFG3.
[176] AcadFG3.
[177] AcadFG3.
[178] AcadFG3.
[179] ArchNSWFG3.
[180] Client/UserFG3.
[181] AcadFG3.
[182] Developer/BuilderFG3.
[183] ArchVicFG3.
[184] ArchVicFG3.
[185] ArchNSWFG3.

and risks in the context of different procurement models would be useful.[186] In addition, information for the public about how an architect can de-risk a project could be useful.[187] Building surveyors stated that guidance regarding the level of detail required in design documentation would be useful to establish a better understanding of what must be included in design services, particularly in design documentation.[188]

57. Clients/users also stated that it would be useful to have information about the role of the principal architect versus the architect, particularly in the context of large projects, as well as architects' project management role.[189] NSW architects stressed that the ARBs need to understand the complexity of small practices and the various hats that architects in those practices wear.[190]

Client education

58. Clients/users stated that information about what makes a good client would be useful because good projects occur with good clients.[191] Victorian architects added that it would be useful for information about client-architect agreements to be passed on to developers, particularly in relation to novated D&C arrangements.[192]

B. Design & construct procurement

Driver for D&C contracts

59. An initial threshold issue that was discussed during the focus groups was the reason for the dominance of the D&C procurement model in the Australian construction industry. Developers/builders explained that, for some construction projects (particularly small to medium size multi-residential buildings), banks will not provide finance unless the project is covered by a lump sum D&C contract, where a single lump sum covers the cost of the entire project.[193] The centralisation of responsibility for design and construction in the contractor under a D&C contract and the incentives to complete the project within budget and on time may make this procurement model a relatively attractive option for banks, because they may perceive that this model minimises project delivery risks and enhances accountability for project delivery through a single point of contact.

[186] Client/UserFG3.
[187] Client/UserFG3.
[188] BuildSurvFG3.
[189] Client/UserFG3.
[190] ArchNSWFG3.
[191] Client/UserFG3.
[192] ArchVicFG3.
[193] Developer/BuilderFG1.

Impact of D&C procurement on the design process

De-prioritisation of the design process

60. Comments were made during the focus groups that suggested that the design process may be de-prioritised in the novated D&C context. NSW architects stated that it is possible to deliver quality and excellence under a D&C contract.[194] However, the time pressure and "peaky" nature of design services implied by D&C procurement places significant pressure on architects and de-prioritises design within the project schedule.[195] Design is often treated as a flexible element that has to be accommodated within other uncertain processes, such as gaining approvals for the project.[196]

61. Client/users stated that clients rely on architects to ensure that the design intent is carried through the project and that architects need to work with all stakeholders and drive the process rather than relying on the contractor.[197] Yet, Victorian architects stated that D&C procurement has prompted a defensive approach to protect design intent.[198] They also noted that architects are required to scope a project much more thoroughly during the initial stages of the project without adequate information about the technical details, which affects the actual design. This may make downstream changes more challenging after the contractor takes over the project; the inability to make these changes may ultimately compromise quality in the final built outcome.[199]

62. Clients/users suggested that, in the past, architects and design may have been deprioritised over the contractor and the construction process because architects were considered not to have construction knowledge adequate to ensure the "buildability" of a design; design intent was relied upon instead of detailed design documentation.[200] More recently, more detailed design documentation is required up front and architects are being retained to maintain the design intent and to ensure that it is carried through into detailed construction.[201]

Speed of design process

63. The focus group discussion also addressed the speed with which designs must be prepared by architects. Victorian architects stated that time and cost pressures that exist in the D&C context may have an adverse impact on the provision of quality architectural services.[202] They explained that D&C procurement leads to a "performance-based approach" in relation to the design because there is insufficient time to get detailed design documentation ready for tender.[203] Such an approach involves developing designs with a focus on achieving specific performance requirements,

[194] ArchNSWFG1.
[195] ArchNSWFG1.
[196] ArchNSWFG1.
[197] Client/UserFG1.
[198] ArchVicFG1.
[199] ArchVicFG1.
[200] Client/UserFG1.
[201] Client/UserFG1.
[202] ArchVicFG1.
[203] ArchVicFG1.

rather than adhering to prescriptive "deemed-to-satisfy" requirements in the National Construction Code (**NCC**).

64. Building surveyors elaborated that the speed of the design process in the D&C context is resulting in inadequate detail in design documentation; the builder is then left to address the gaps in the design documentation during the construction process – such as materials or products to be used.[204] They stated that time and cost pressures in the D&C context can have an adverse impact on the quality of building design.[205]

Limited design documentation

65. The design development phase typically consists of several stages that guide the progression of the design from initial concept to detailed documentation. During the concept design stage, a high-level initial design is prepared based on the client's brief. For the design development stage, the concept design is further refined and developed into detailed architectural designs. This typically involves architects working closely with consultants, engineers, and other specialists to ensure that all relevant requirements are integrated into the design, including technical, sustainability and regulatory requirements.

66. During the focus group discussion, it was suggested that the level of design detail required at the time of novation may affect the extent to which the original design intent is respected through the construction process. Victorian government representatives stated that, under D&C procurement, documentation is only completed to a stage required by the contractor and there is no obligation to complete or provide full documentation.[206] Victorian architects added that D&C procurement means that architects are not required to provide fully resolved design documents; important architectural elements are typically documented, but less important elements are left to be documented and worked through with the contractor to avoid abortive work.[207]

Inadequate contact with client

67. When a D&C contract is novated, the responsibility for design is transferred from the architect to the contractor. This can alter the dynamic between the architect and the client. In particular, NSW architects noted that architects may be contractually removed from having a relationship with the client, which can lead to uncertain outcomes during the construction phase.[208] More specifically, the loss of contact with the client following novation means that architects cannot have a clear sense of the client's position, they are unable to offer a perspective on contractor changes, and they cannot control or guide project outcomes to ensure the client's objectives can be achieved.[209] Even

[204] BuildSurvFG1.
[205] BuildSurvFG1.
[206] GovVicFG1.
[207] ArchVicFG1.
[208] ArchNSWFG1.
[209] ArchNSWFG1.

if the architect has a strong relationship with the client at the time of novation, the contractual arrangements and attitude of the contractor can undermine this relationship.[210]

68. Victorian architects added that a direct line of contact with the client is important, but this is contrary to existing contractual structures in the D&C context.[211] Victorian government representatives agreed that the lack of direct interaction between an architect and client may compromise design outcomes.[212] Architects are needed throughout a project, not just at discrete times during the project.[213] NSW architects stated that architects should be the final arbiters of the fitness for purpose of a design.[214]

Lack of adequate collaboration and integration of design

69. In the context of novated D&C procurement, while the contractor is responsible to the client for delivering the design (and the construction) of the project, a range of design consultants are typically engaged by the contractor to provide specialist technical expertise for the project. These design consultants may include architects, structural engineers, mechanical engineers, electrical engineers, civil engineers, environmental consultants and sustainability experts, among others. In this context, architects may be required to collaborate with the other design consultants to ensure that the architectural design takes account of all relevant technical requirements.

70. When considering challenges faced by architects in the D&C context, focus group participants discussed the siloing that may occur, which may impede collaboration and integration of design as a whole. Academics noted that the procurement model should accommodate early involvement of all consultants, including building surveyors, but the D&C model does not allow for that.[215] NSW architects stated that builders are willing to silo the design team and overrule the design team on design issues, typically on the basis of time pressure.[216] Insurers/brokers added that D&C procurement can have the effect of siloing consultants and prevent them from giving advice to ensure quality outcomes at the time the advice is needed.[217] They added that the siloing of consultants in the D&C context may compromise the quality of buildings.[218] Victorian architects acknowledged that, initially, architects were not treated as a collaborator but, more recently, the design process and architects have been better integrated into the D&C process, although this can depend heavily on the particular parties involved in a project.[219]

[210] ArchNSWFG1.
[211] ArchVicFG1.
[212] GovVicFG1.
[213] GovVicFG1.
[214] ArchNSWFG1.
[215] AcadFG1.
[216] ArchNSWFG1.
[217] Insurer/BrokerFG1.
[218] Insurer/BrokerFG1.
[219] ArchVicFG1.

Use of building designers to take over design

71. While architects typically offer comprehensive design services, building designers that have not been registered as architects may be engaged by the contractor to undertake design services for a project. Victorian architects noted that architects might be replaced with low-cost building designers once a contractor takes over.[220] Victorian government representatives agreed that architects may be changed when the D&C contract is novated, and other less qualified designers may become involved.[221] Implicitly, this could compromise the integrity of the original design and have an adverse impact on the final built outcome.

Failure to ensure consistency with design during building process

72. Under D&C procurement, the contractor is responsible for ensuring the design developed by the design consultants is used for the construction process and that the built outcome is consistent with the design. The contractor may engage subcontractors to undertake parts of the construction work, such as plumbers, electricians, HVAC (heating, ventilation and air conditioning) technicians, and carpenters.

73. Academics stated that there is an assumption in the D&C context that a project can simply progress from design to construction.[222] Insurers/brokers further noted that consultants who are under the control of the builder are rarely on site and, at times, only permitted on site to inspect when directed by the builder.[223] These factors may mean that the design intent is not adequately reflected in the final built outcome or, at worst, the design documentation has not been complied with. Building surveyors stated that the architect needs to provide more oversight and be the conduit of information between a number of different practitioners to ensure that the design intent is carried through to project delivery.[224]

74. Building surveyors also noted that they may encounter challenges in addressing gaps in design documentation when the architect is no longer involved in the project.[225] The building surveyor is expected to certify compliance when there is limited and inadequate information about the design, particularly for staged permits; there is no scope under Victorian legislation to revisit a permit after it has been issued by the building surveyor when more information may be available.[226]

Limited fees for architectural services

75. The scope of services provided by the architect in a D&C context may be limited, particularly if the contractor assumes responsibility for managing the design process or coordinating design activities with other project stakeholders. Victorian architects noted that, in a D&C context, there is an expectation that architects' fees should be reduced because they are not responsible for project

[220] ArchVicFG1.
[221] GovVicFG1.
[222] AcadFG1.
[223] Insurer/BrokerFG1.
[224] BuildSurvFG1.
[225] BuildSurvFG1.
[226] BuildSurvFG1.

delivery; the contractor bears responsibility for this. However, the point was made that the ruling in the *Lacrosse* case highlights that significant responsibility may be imposed on architects, which needs to be priced into architects' fees.[227] Academics stated that the change in methodology and approach implied by the D&C contract (e.g. the need for up front design work to be undertaken) needs to be accounted for in fee structures to ensure that architects are appropriately remunerated for their work.[228]

Limited budget

76. The focus group discussion also touched on the adverse impact of budgetary limitations. NSW architects stated, after novation of a D&C contract, there may be inadequate budget for design finalisation and substitution requests by the contractor that involve deviation from the original design may be motivated by cost-cutting.[229]

77. However, clients/users suggested that the design must be commercially viable and architects need to be willing to change the design; builders are typically more open to change and to providing alternatives.[230] Clients/users further stated that architects may need to evolve their services and work with all stakeholders to ensure that designs can be delivered within budget and in a manner that is aligned with commercial imperatives and client expectations; otherwise, by the time the building is constructed (and is likely over-budget), the focus will be on cutting costs rather than realising design intent and maintaining building quality.[231]

Factors that contribute to adverse outcomes for architects and the design process in the D&C context

Selection of inappropriate procurement model

78. There are various factors that may cause clients to favour D&C procurement over other procurement models. A significant factor is the centralisation of responsibility in the contractor for design and construction, which can simplify and enhance efficiency of project delivery. The integrated approach to project delivery can also mean that the project is more likely to be delivered on time and within budget. However, during the focus groups, it was suggested that the D&C procurement model may be used by clients without due consideration. Academics stated that some organisations automatically opt for a particular procurement model without adequate reflection on the appropriate model for the particular project; there are other procurement models including hybrid models that may be more suitable depending upon the type and complexity of the project that is being undertaken.[232]

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[227] ArchVicFG1. The Lacrosse case concerned a fire at the Lacrosse apartment tower in Melbourne that was linked to flammable cladding used on the building. The judgement in that case can be found in *Owners Corporation No 1 of PS613436T v L U Simon Builders Pty Ltd* [2019] VCAT 286.
[228] AcadFG1.
[229] ArchNSWFG1.
[230] Client/UserFG1.
[231] Client/UserFG1.
[232] AcadFG1.

Poorly prepared developer

79. Developers can play a critical role in D&C procurement by guiding the project's development, managing its financial and operational aspects, mitigating risks, and ensuring successful project outcomes. However, during the focus groups, NSW architects stated that developers may have unreasonable expectations for the project and/or be ill-prepared.[233] This may mean that a project is poorly planned, risks are not properly managed, and built outcomes are compromised. There will be implications for all parties involved in delivery of the project, including architects.

80. The *Design and Building Practitioners Act 2020* (NSW) (**NSW DBP Act**) imposes obligations on builders and architects and effectively binds these parties together by virtue of their respective obligations but the Act does not apply to developers.[234]

Profile and approach of contractor

81. The profile of the contractor may also affect architects and the design process. Victorian government representatives stated that the D&C procurement model is based on a belief that the contractor is the most appropriate party to assume full responsibility for project delivery, which means that built outcomes are prioritised over design outcomes. However, this is not necessarily the case.[235]

82. Victorian government representatives stated that the ability of a contractor to give effect to design intent will depend upon how collaborative the contractor is.[236] NSW architects also stated that early contractor involvement in the design process can lead to the death of innovation.[237] Moreover, once risk is transferred to the contractor, it may feel emboldened to take on technical roles that are not within the contractor's expertise.[238]

Uncertainty created by the D&C context

83. NSW architects stated that the D&C procurement model creates an uncertain context. More specifically, there are a lot of moving parts and uncertainty in the D&C context, which means that architects need to be on their toes.[239] There is more scope for things to change and an architect's duty of care is not altered by the procurement model.[240] Victorian architects added that staged development, with multiple building permits, requires the design for each stage to be prepared without visibility of the bigger picture of the entire development, which may compromise quality overall.[241]

[233] ArchNSWFG1.
[234] ArchNSWFG1.
[235] GovVicFG1.
[236] GovVicFG1.
[237] ArchNSWFG1.
[238] ArchNSWFG1.
[239] ArchNSWFG1.
[240] ArchNSWFG1.
[241] ArchVicFG1.

Lack of adequate education and training

84. The adequacy of education, knowledge and skills of architectural students, graduates and practising architects in the D&C context was also discussed during the focus groups.

85. Victorian government representatives stated that graduates and early career architects lack the competency to administer D&C contracts because they are not getting adequate experience in contract administration.[242] Victorian architects stated that it is critically important for architectural students and young practitioners to be equipped with the tools to navigate D&C contracts but noted that, over time, architects have gained knowledge and sophistication in terms of how to approach D&C procurement and documentation is now better tailored to the context.[243] Academics noted that many people in leadership positions within architectural practices have not been trained in D&C contracts and it is only in the last 10 years that these contracts have appeared in university curricula.[244] They acknowledged that education of the profession about D&C contracts is needed as early as possible but noted that the current generation of architects may be better equipped than previous generations.[245] NSW architects agreed that architects need to develop skills and expertise in understanding their contractual obligations in the D&C context and to liaise with insurers in advance to avoid signing up to indemnities that compromise their insurance cover.[246]

86. Developers/builders stated that education of the client is also important, so that objectives and outcomes of D&C procurement are well understood.[247] Academics added that there are cultural issues regarding what is celebrated in the architecture sector; there may be benefit in revisiting the metrics for successful architectural projects – e.g. linking them to good client and end-user relationships.[248]

Impact of D&C contracts on allocation of risk, liability and insurance

87. Victorian government representatives stated that, under the D&C model, the transfer of risk to the contractor means that architects lose responsibility for the delivery of design services; architects (and other consultants who are sub-contractors to the contract) become the agent of the contractor, not the client.[249] Victorian architects stated that, following novation, the exposure of an architect to unfair contractual terms and risk can increase but that there are different views of what is reasonable in this context.[250]

[242] GovVicFG1.
[243] ArchVicFG1.
[244] AcadFG1.
[245] AcadFG1.
[246] ArchNSWFG1.
[247] Developer/BuilderFG1.
[248] AcadFG1.
[249] GovVicFG1.
[250] ArchVicFG1.

88. Developers/builders stated that the allocation of risk, liability and indemnities can affect finance for a project and some smaller developers may have limited capacity to negotiate with the major banks.[251] They also noted that the risk profile of a project can evolve as the project progresses and this can lead to renegotiation of indemnities and insurance requirements.[252]

89. NSW architects stated that architects need to develop skills and expertise in understanding their contractual obligations and liaise with insurers in advance to avoid signing up to indemnities that compromise their insurance cover.[253] Developers/builders agreed that there needs to be a rethink and reconfiguration of the allocation of risk.[254]

90. Professional indemnity insurance (**PI insurance**) provides financial protection to architects and architectural firms against claims for damages arising from professional negligence, errors, omissions, or other professional liabilities. During the focus groups, Victorian architects stated that, whereas $10 million PI insurance was once the standard requirement for engagements to provide architectural services, increasingly $20 million PI insurance is being required by clients for building projects.[255] NSW government representatives acknowledged that concern has been expressed about excessive PI insurance requirements for some government contracts.[256]

91. Insurers/brokers stated that some of the requirements being imposed on architects in the D&C context amount to unfair contract terms and could compromise insurance coverage.[257] Insurance cover may not be available when the contractual arrangements contain clauses that distort the normal common law obligations applicable to architects, such as contractual indemnities, disproportionate allocation of liability, and attempts to contract out of liability; it can be complex to determine what is covered by insurance and what is not covered.[258]

92. In relation to the cost of PI insurance, insurance/brokers explained that PI premiums have risen in the last 5 years due to a challenging PI insurance market overall that is impacting all professionals, especially in the construction industry. The architect-specific impacts (and impacts on other professionals, such as engineers) are due to the significant and continuing cost of cladding claims.[259]

93. Insurers/brokers further stated that there is limited specific data about the impact of D&C procurement on PI insurance for architects.[260] Based on available evidence, D&C procurement can produce the same quality outcomes as traditional procurement, but only if there is an active commitment to quality, a vigilant superintendent, a good and experienced builder and client/financier who is realistic about costs, and a good consultant team.[261] Anecdotally, absence of

[251] Developer/BuilderFG1.
[252] Developer/BuilderFG1.
[253] ArchNSWFG1.
[254] Developer/BuilderFG1.
[255] ArchVicFG1.
[256] GovNSWFG1.
[257] Insurer/BrokerFG1.
[258] Insurer/BrokerFG1.
[259] Insurer/BrokerFG1.
[260] Insurer/BrokerFG1.
[261] Insurer/BrokerFG1.

these features in the D&C procurement context could give rise to more claims against architects but there is no data to confirm this.[262]

94. However, insurers/brokers did state that claims can arise when there is a mismatch between the design and construction phases.[263] D&C procurement can have the effect of siloing consultants and prevent them from giving advice to ensure quality outcomes at the time the advice is needed.[264] They stated that obligations of practitioners under the NSW DBP Act, including architects, should, in the long-term, reduce the risk of a mismatch between design and construction and produce better buildings.[265] However, the retrospective duty of care obligations in the NSW DBP Act have increased the number of claims made against architects and other consultants.[266] They recommended that architects need to price for the NSW DBP Act appropriately. They should be charging higher fees to account for the additional work required and the "up-front" nature of design work under the NSW DBP Act. Leaving aside the commercial risks of not doing so, under-resourced and under-priced projects are a source of PI claims.[267]

Impact of D&C contracts on built outcomes

95. Victorian architects stated that it is important to clarify what is meant by "quality"; it extends beyond aesthetics and the look and feel of a building and essentially relates to whether a building is fit-for-purpose.[268] NSW architects stated that D&C procurement does not necessarily lead to reduced quality in building design; meaningful engagement may optimise design and deliver innovation and excellence.[269] Insurers/brokers agreed that D&C procurement can produce the same quality outcomes as traditional procurement but only if certain factors exist – such as a commitment to quality, a good and experienced builder that is realistic about costs, and a good consultant team.[270]

96. However, NSW architects stated that D&C procurement is often used as a tool to prioritise time and cost, which may lead to quality being compromised; pressure on quality is the main challenge associated with this model of procurement.[271] Victorian architects stated that the quality of architectural work has decreased over time with the D&C procurement model; better quality design will produce less defects in the long run and a better product.[272] However, the pressure to get a building, or parts of a building, to market diminishes quality.[273]

[262] Insurer/BrokerFG1.
[263] Insurer/BrokerFG1.
[264] Insurer/BrokerFG1.
[265] Insurer/BrokerFG1.
[266] Insurer/BrokerFG1.
[267] Insurer/BrokerFG1.
[268] ArchVicFG1.
[269] ArchNSWFG1.
[270] Insurer/BrokerFG1.
[271] ArchNSWFG1.
[272] ArchVicFG1.
[273] ArchVicFG1.

97. Having said that, Victorian architects acknowledged that, under D&C procurement, the builder has more control over quality, which can lead to better outcomes because constructability issues are taken into account but can also lead to poor outcomes when designs are modified and short-cuts are taken.[274] The most important input to ensure the buildability of a design is from trade intelligence.[275] Victorian architects stated that sophisticated builders can bring "building intelligence" to a project but some builders are simply there to manage sub-contractors.[276]

Mechanisms that can mitigate the adverse impacts of D&C contracts on design and the delivery of architectural services

Client engagement

98. Victorian architects stated that an engaged client that insists on full design documentation post-novation can help avoid adverse quality issues, but this involves co-ordination and alignment among all relevant consultants.[277] They suggested that clients need to remain involved throughout the D&C process, engage with all parties on an individual basis, (including architects, builder and other consultants) and make key decisions when required.[278]

99. Clients/users suggested that there is a role for architects to educate clients to ensure that important issues are fully documented up front.[279] Victorian architects stated that having architects on the client side can lead to a more collaborative approach.[280]

Early engagement of contractor

100. Developers and builders suggested that the earlier a builder is engaged, the more efficient and cost-effective the process to ensure that constructability issues can be effectively addressed early in the design of the project.[281] Early engagement of the builder will help enhance constructability and ensure that the trade packages can be tailored accordingly.[282] Victorian architects agreed that the use of trade intelligence during the early stages of design to address constructability issues can minimise disruption during the construction process.[283] However, Victorian architects also stated that sophisticated builders can bring building intelligence to a project but some are simply there to manage sub-contractors.[284]

[274] ArchVicFG1.
[275] ArchVicFG1.
[276] ArchVicFG1.
[277] ArchVicFG1.
[278] ArchVicFG1.
[279] Client/UserFG1.
[280] ArchVicFG1.
[281] Developer/BuilderFG1.
[282] Developer/BuilderFG1.
[283] ArchVicFG1.
[284] ArchVicFG1.

Clarity about design process and design documentation

101. It was also suggested that greater clarity about design and the design process may lead to better outcomes. Victorian architects stated that the concept of design development has been lost in the D&C context and is not well-understood by project managers and developers; there needs to be more clarity about the design development process and the phases of design development and architects need to get better at explaining this process.[285] Victorian government representatives agreed that there is a lot of confusion about the design process; the various aspects of the design process should be clarified, distinguished and standardised. This could be helpful when specifying design requirements at the time the construction tender is issued.[286] Academics agreed that more clarity is needed about the design process.[287]

102. NSW architects suggested that, at novation, the design of important elements should be fully documented leaving the less important elements for the contractor to resolve, but a nuanced approach is needed depending upon the particularities of the project; early discussions with the client about outcomes and expectations can help to ensure a tailored approach.[288]

103. NSW government representatives stated that the NSW DBP Act and the *Residential Apartment Buildings (Compliance and Enforcement Powers) Act 2020* (NSW) help to ensure that design is prioritised up front and is changing the relationship architects have with other sectoral participants in the D&C context.[289] The NSW DBP Act does not preclude D&C contracting but it extends designers' obligations beyond the developer/contractor to the customer.[290] By prioritising design during the early stages of a project, the NSW DBP Act helps to reduce defects; there is early evidence indicating a lift in the quality of design and a reduction in defects post construction.[291]

104. The key features of the NSW DBP Act highlighted by NSW government representatives during the focus groups are listed below:[292] The NSW DBP Act

- prescribes the standard of work expected of architects, which enables them to have more forceful conversations up front with contractors about costs to ensure compliant designs and outcomes; it is important to ensure that design practitioners involved in the production of quality, compliant building design are being paid accordingly.
- incentivises all consultants to integrate their designs so that designs are not being created in isolation.
- facilitates the early identification of defects in design work, which then avoids those defects being translated into defects in the building work.

[285] ArchVicFG1.
[286] GovVicFG1.
[287] AcadFG1.
[288] ArchNSWFG1.
[289] GovNSWFG1.
[290] GovNSWFG1.
[291] GovNSWFG1.
[292] GovNSWFG1.

› creates a paper trail, which reduces the risk that those who are not responsible for a defect are unnecessarily involved in legal proceedings; this could reduce the amount of legal fees coming out of PI insurance, which may help to reduce the costs of PI insurance cover.

105. NSW architects agreed that the NSW DBP Act has helped to reframe the conversation around the design/building relationship by ensuring the design is complete before a building is built; however, it imposes obligations on builders and consultants but not on developers.[293] Academics suggested that a legislative solution (like the NSW DBP Act) may help to ensure better design outcomes but there is likely to be resistance from developers and contractors because of the perceived cost impost associated with compliance.[294] NSW government representatives responded that there was initially push back from architects about the additional work that architects need to undertake under the NSW DBP Act, but that has settled down. There was also push back from developers about increasing costs associated with compliance with the Act but there appears to be more acceptance now, particularly in light of the risk of audit by the NSW Building Commissioner.[295]

More collaboration and open lines of communication

106. Focus group participants also discussed the need for a more collaborative approach and open lines of communication. Victorian architects stated that transparency and open communication can mitigate some of the risks and challenges that could otherwise arise.[296] A more collaborative approach during the entire process can help ensure alignment of interests and outcomes but can negate the perceived benefit of D&C procurement – namely, to have a single party responsible for project delivery.[297] Developers/builders agreed that value is maximised through a collaborative architect-builder relationship.[298] They stated that the design concept should be developed with relevant stakeholders upfront, including the developer, architect and builder.[299] Clients/users stated that collaborative approaches are increasingly being used to overcome some of the challenges associated with D&C procurement.[300]

107. Reference was also made to whistleblower clauses. NSW architects stated that they can be used by architects to alert the client to significant issues arising in relation to the design of the project and the contractor is typically informed about the issues and the outcome of the discussion between the architect and the client.[301] However, client/users stated that the relationship between the client and architect should be strong enough to avoid the need to rely on whistleblower clauses.[302]

[293] ArchNSWFG1.
[294] AcadFG1.
[295] GovNSWFG1.
[296] ArchVicFG1.
[297] ArchVicFG1.
[298] Developer/BuilderFG1.
[299] Developer/BuilderFG1.
[300] Client/UserFG1.
[301] ArchNSWFG1.
[302] Client/UserFG1.

Regulation of developers

108. Academics stated that architects are heavily regulated but in the D&C context they are dealing with other players that are unregulated or subject to much less onerous regulatory obligations, like the developer and other designers.[303] Victorian government representatives stated that continuing responsibilities need to be imposed on developers for the buildings they deliver, including once the buildings are sold to another party.[304] Developers/builders stated that developers would love to take more time to do things properly and have a tighter set of design documents, but this could be detrimental from a competitive and commercial perspective.[305] Nonetheless, they acknowledged that the regulation of developers could be helpful to differentiate market players and weed out the "fly-by night" operators.[306]

109. NSW government representatives noted that, in NSW, developers can be issued orders during the construction phase, which helps to ensure that defects are rectified during that phase.[307] Developers are being required to give undertakings to remediate defects.[308] Developers are also being required to obtain iCIRT rating (an Independent Construction Industry Rating Tool that uses a five star system to rate builders in NSW).[309]

New contractual structure

110. Victorian architects stated that there is scope for innovative thinking about the next contractual structure.[310] The Australian Institute of Architects (**AIA**), Association of Consulting Architects (**ACA**), Office of the Victorian Government Architect (**OVGA**) and Australian Architecture Association (**AAA**) need to do more to support architects in this space so that a collective approach can be presented to the wider industry.[311]

Role for the ARBs

111. Focus group participants also discussed the role that the ARBs could play to address some of the challenges and risks associated with D&C procurement that were identified during the discussion.

112. Suggestions were made about clarifying the role of architects in the D&C context. NSW architects suggested that the ARBs should promote a better understanding of the role of architects.[312] Building surveyors agreed that more information about roles and responsibilities in the D&C context could be beneficial, together with information about how architects can influence design.[313] NSW government representatives noted that architects are regulated to a higher standard than many

[303] AcadFG1.
[304] GovVicFG1.
[305] Developer/BuilderFG1.
[306] Developer/BuilderFG1.
[307] GovNSWFG1.
[308] GovNSWFG1.
[309] GovNSWFG1.
[310] ArchVicFG1.
[311] ArchVicFG1.
[312] ArchNSWFG1.
[313] BuildSurvFG1.

other professionals in the construction industry. It is important to clarify what architects are legally responsible for, rather than things architects are expected to do because no one else is doing them.[314]

113. There were also some suggestions regarding education and training about D&C contracts and administration. Academics noted that the current generation of architects are being educated about procurement models and may be better equipped than previous generations.[315] They suggested that the ARBs could play a role in ensuring that graduates emerge from university with a whole-of-project understanding of the implications of D&C procurement.[316] More specifically, they suggested that a vision is needed of what is expected of graduates and early career architects in the future so that they can be adequately supported.[317] There is also a role for the ARBs to ensure the quality of education being provided, particularly in relation to how a D&C contract can affect design and compliance with professional standards obligations.[318]

114. NSW architects stressed that there is a need for assistance at all stages of an architect's career.[319] The ARBs could help to enhance architects' skills in navigating the D&C context.[320] Work on how to empower architects in a D&C context would be beneficial.[321] Scenarios, case studies and examples of good outcomes in a D&C context would be useful.[322] While there's value in educating architects about what has gone wrong and what not to do, there is also value in talking about what best practice looks like.[323] In addition, it would be useful to have evidence-based information about claims made against architects, including root causes, to help avoid future claims.[324]

115. Victorian government representatives also stated that there is an educative role for the ARBs – specifically, publishing practice notes and advice and running CPD seminars in relation to the architect's role in the D&C context and associated competencies in relation to contract administration.[325] They suggested that the ARBs together with the AIA could publish commonly used D&C contracts and include a checklist or short commentary on what to look out for under each contract.[326] They also suggested that the ARBs could offer a service similar to the AIA Senior Counsellor Service to support young architects.[327]

[314] GovNSWFG1.
[315] AcadFG1.
[316] AcadFG1.
[317] GovNSWFG1.
[318] AcadFG1.
[319] ArchNSWFG1.
[320] ArchNSWFG1.
[321] ArchNSWFG1.
[322] ArchNSWFG1.
[323] GovNSWFG1.
[324] ArchNSWFG1.
[325] GovVicFG1.
[326] GovVicFG1.
[327] GovVicFG1.

C. Compliance with the National Construction Code

Context

116. As context for the discussion about NCC compliance and, particularly, to identify the types of buildings where NCC compliance issues could arise, Victorian architects noted that there is a relatively small percentage of buildings that involve design by architects; this needs to be accounted for in considering NCC compliance and quality issues statewide.[328] Victorian government representatives also noted that small-scale residential buildings generally just involve standard NCC compliance and that there aren't many architecturally designed buildings at that end of the market.[329] Building surveyors also highlighted the importance of distinguishing between building defects arising from NCC non-compliance and other defects that have nothing to do with compliance (e.g. finishes).[330] Developers/builders stated that most defects are not related to NCC compliance but, rather, are workmanship defects.[331]

117. Various focus group participants stressed that the NCC only establishes minimum standards. Victorian architects stated that the NCC prescribes minimum standards in terms of design quality rather than the upper bound of what is required.[332] Building surveyors stated that these minimum standards establish a low bar and quite often will not yield the best built outcome.[333] However, implicit in the NCC is the expectation that the entire design for a building should be fit-for-purpose.[334] Clients/users suggested that the minimum standards in the NCC should be used as a guide to be built upon.[335] Victorian architects agreed that NCC compliance should be used as an opportunity rather than a constraint by defining minimum standards that designers can go beyond to enhance building quality.[336]

Link between NCC compliance and quality built outcomes

118. Focus group participants considered whether NCC compliance will deliver good quality built outcomes. As a threshold matter, the definition of "quality" was examined. Building surveyors stated that the concept of quality is subjective, although quality is likely to go beyond compliance with the minimum standards in the NCC and extends to matters that are not covered by the NCC, such as aesthetic issues and finishes that are likely to be particularly important for the end-user.[337] Victorian architects agreed that NCC compliance and design quality are not the same thing.[338] Academics suggested that quality means fitness for purpose, but students may not understand this

[328] ArchVicFG2.
[329] GovVicFG2.
[330] BuildSurvFG2.
[331] Developer/BuilderFG2.
[332] GovVicFG2.
[333] BuildSurvFG2.
[334] BuildSurvFG2.
[335] Client/UserFG2.
[336] ArchVicFG2.
[337] BuildSurvFG2.
[338] ArchVicFG2.

notion of design quality nor how to integrate NCC requirements into designs to ensure design quality and built outcomes that are fit-for-purpose.[339]

119. Academics stated that the NCC has an impact on the quality of building designs.[340] However, NSW architects stated that the link between NCC compliance and building quality is not direct and clear because the NCC is primarily about health, safety, amenity etc.[341] The NCC drives an expectation of compliance but not good quality design; it creates compliant performance of a building but falls short of ensuring good design outcomes.[342] Nevertheless, Victorian government representatives stated that buildings that are not NCC-compliant are likely to be poorly designed.[343]

120. Victorian government representatives also stated that there may be a mistaken impression that compliance with the minimum standards in the NCC will ensure quality built outcomes.[344] NSW architects agreed that buildings can be NCC-compliant but poorly designed.[345] Clients/users stated that the impact of the NCC on building quality will depend upon the project and procurement process; compliance is easier for standard designs but more challenging for complex designs.[346] Victorian government representatives suggested that there may be a race to the minimum standards for high volume, low margin building projects, rather than use of the design flexibility and the various compliance pathways that are available under the NCC to achieve higher quality.[347]

Roles and responsibilities regarding NCC compliance

Procurement model, project type and parties

121. Focus group participants were asked to identify which party bears primary responsibility for NCC compliance. Victorian architects[348], Victorian government representatives[349] and academics[350] all agreed that NCC responsibilities may vary depending upon the procurement method used, the project type and parties involved.

122. Victorian architects clarified that time and budget pressures will have an impact on the procurement model and then the procurement model will affect how responsibility for NCC compliance is distributed between the parties.[351] Clients/users agreed that responsibility for NCC compliance depends upon the procurement approach and noted that the client takes responsibility

[339] AcadFG2.
[340] AcadFG2.
[341] ArchNSWFG2.
[342] ArchNSWFG2.
[343] GovVicFG2.
[344] GovVicFG2.
[345] ArchNSWFG2.
[346] Client/UserFG2.
[347] GovVicFG2.
[348] ArchVicFG2.
[349] GovVicFG2.
[350] AcadFG2.
[351] ArchVicFG2.

for the procurement strategy initially.[352] They suggested that it is critically important for the client to choose the right procurement approach at the outset for each project on a case-by-case basis.[353]

Shared role but different responsibilities

123. Victorian architects,[354] clients/users[355] and developers/builders[356] all agreed that NCC compliance will largely be a shared role, although the responsibilities may differ. Developers/builders suggested that responsibility for NCC compliance can be allocated to anyone.[357] Building surveyors clarified that there are different responsibilities for different practitioners and liability is apportioned accordingly.[358] The architect is responsible for the design in the first place, the builder is responsible for the building, and the building surveyor is responsible for oversight, but it is the courts that ultimately decide who is responsible for NCC compliance.[359] Victorian government representatives agreed that NCC compliance is a shared responsibility among the key actors in the project chain, but this may be challenging to communicate up and down the project chain.[360]

Client

124. Developers/builders stated that, under a D&C contract, the client will always want to pass primary responsibility for NCC compliance to the head contractor but then responsibility is passed on to consultants and sub-contractors under the various professional services contracts and other sub-contracts.[361]

Contractor

125. Clients/users stated that the contractor is generally responsible for NCC compliance under the D&C procurement model because it must obtain the occupation certificate and other approvals.[362] Developers/builders suggested that, under this model, there is limited ability for the contractor to make innovative changes; the contractor must ensure co-ordination of the concept, services and built outcomes to ensure that everything is compliant at the end of the day.[363] However, Victorian architects noted that the contractor is incentivised to reduce costs and that, in turn, may involve reduced quality.[364]

[352] Client/UserFG2.
[353] Client/UserFG2.
[354] ArchVicFG2.
[355] Client/UserFG2.
[356] Developer/BuilderFG2.
[357] Developer/BuilderFG2.
[358] BuildSurvFG2.
[359] BuildSurvFG2.
[360] GovVicFG2.
[361] Developer/BuilderFG2.
[362] Client/UserFG2.
[363] Developer/BuilderFG2.
[364] ArchVicFG2.

126. Victorian architects stated that the contractor should be required to demonstrate compliant construction while giving effect to the design intent, but the interface between the architectural documentation and the built outcomes can lead to grey areas as to who is responsible for NCC compliance; responsibility should be clearly articulated in any contract and the scope of works.[365] Insurers/brokers added that contracts are being used to unfairly allocate responsibility for NCC compliance from contractors to architects and building surveyors even though at common law builders should be responsible for compliance; insurers are regularly seeing contracts that result in the unfair allocation of responsibility.[366]

Building surveyor

127. Victorian architects stated that although NCC compliance is largely a shared role, the building surveyor has primary responsibility.[367] Building surveyors agreed that they are the "gate keepers".[368] Insurers/brokers noted that, in the context of insurance claims, the building surveyor tends to be held accountable for NCC non-compliance more often than the architect.[369] Nonetheless, building surveyors are not design consultants and, at times, they are held accountable for design compliance issues.[370]

128. Building surveyors noted that there is a broad spectrum of expectations about the role of building surveyors, ranging from those architects who use building surveyors for oversight and those architects that rely upon building surveyors for NCC compliance.[371] Victorian architects stated that, for smaller architectural practices, time and fee limitations may mean that heavy reliance is placed on the building surveyor to ensure NCC compliance.[372] Building surveyors stated that the Code of Conduct for Building Surveyors in Victoria[373] attempts to avoid undue reliance on building surveyors by clarifying that the role of the building surveyor is to provide third party review.[374] Victorian architects stated that there is a need for more information for architects about the role of building surveyors.[375]

129. Victorian architects suggested that the building surveyor's responsibility should probably be shared with the builder because the building surveyor cannot be across everything occurring on-site.[376] Building surveyors noted that they apply a risk-based approach to assess NCC compliance because it is not possible to review each and every aspect of the design and construction; they rely upon designers and builders to ensure compliance for all work that takes place between the mandatory

[365] ArchNSWFG2.
[366] Insurer/BrokerFG2.
[367] ArchVicFG2.
[368] BuildSurvFG2.
[369] Insurer/BrokerFG2.
[370] Insurer/BrokerFG2.
[371] BuildSurvFG2.
[372] ArchVicFG2.
[373] The Victorian Code of Conduct for Building Surveyors can be found on the website of the Victorian Building Authority (**VBA**): https://www.vba.vic.gov.au/surveyors/code-of-conduct.
[374] BuildSurvFG2.
[375] ArchVicFG2.
[376] ArchVicFG2.

inspections.[377] The building surveyor should be engaged to focus on high risk areas and complex issues rather than being drawn into standard compliance issues.[378]

Architect

130. Building surveyors noted that those responsible for design are also responsible for co-ordination of disciplines and documentation, but this is not always clearly documented in contractual arrangements.[379] In a D&C context, this should be the contractor because they have control over the design, even though this can be dangerous because of the competition between client outcomes and costs.[380]

131. As noted above, insurers/brokers stated that they are regularly seeing contracts that result in the unfair allocation of responsibility for NCC compliance from contractors to architects.[381] They suggested that the ARBs should have access to claims and insurance data.[382] Victorian government representatives noted that there is a question as to whether contracts can override statutory responsibility for NCC compliance.[383]

132. NSW architects suggested that some architects do not have a sufficiently thorough knowledge and understanding of the NCC and unduly rely on consultants with NCC expertise (**BCA consultants**) or the construction certificate stage to identify any compliance issues.[384] Architects may not see themselves as NCC experts.[385] Building surveyors suggested that there may be limited understanding of the performance solution pathway available under the NCC.[386] Further, based on audit results, there are apparently issues regarding architects' awareness of their obligations regarding NCC compliance in relation to architectural documentation.[387]

133. Building surveyors stated that BCA consultants should be used to verify NCC compliance, rather than building surveyors, if architectural practices do not have capacity to do so themselves.[388] NSW architects added that there may be ambiguity about whether something is NCC-compliant; BCA consultants can be engaged to advise on NCC compliance, particularly for ambiguous issues, but BCA consultants and the building surveyor may have different views regarding NCC compliance.[389]

[377] BuildSurvFG2.
[378] BuildSurvFG2.
[379] BuildSurvFG2.
[380] BuildSurvFG2.
[381] Insurer/BrokerFG2.
[382] Insurer/BrokerFG2.
[383] GovVicFG2.
[384] ArchNSWFG2.
[385] ArchNSWFG2.
[386] BuildSurvFG2.
[387] BuildSurvFG2.
[388] BuildSurvFG2.
[389] ArchNSWFG2.

134. Victorian architects noted that the extent to which architects rely on BCA consultants or the building surveyor for NCC compliance may vary and be linked to fees.[390] NSW architects suggested that architects need to ensure that they remain abreast of the NCC rather than relying predominantly upon NCC consultants.[391] Academics stated that over-reliance by architects on building surveyors and BCA consultants may lead to a lack of understanding of the NCC; there is a need for more education about the building surveyor's role.[392]

Other consultants

135. Victorian architects noted that there are various other specialists who assist the architect to ensure NCC compliance, including structural engineers, fire engineers and façade engineers.[393] NSW architects stated that architects are often the glue that holds all professional specialists together; architects practically rely upon inputs from other design professionals to assess and ensure NCC compliance.[394]

136. NSW architects also stated that architects need to have a clear understanding of their role and responsibility in relation to NCC compliance but should not have to assume responsibility for work that is beyond their remit.[395] The scope of works should clarify the roles and responsibilities of different consultants in ensuring NCC compliance; education of clients on this issue could be helpful.[396] Building surveyors stated that there needs to be clarity about who is responsible and accountable for what; this may drive more consistency and higher quality outcomes across the sector.[397] Victorian government representatives stated that the lines of communication and responsibility need to be clearly established for every single project.[398]

Scope of architects' obligations to ensure NCC compliance

137. Focus group participants discussed the nature and scope of architects' obligations to ensure NCC compliance. Building surveyors noted that there is a standard expectation that when something is designed, it is compliant with the NCC.[399] Developers/builders stated that an NCC-compliant building starts with compliant architectural documentation.[400] Victorian architects suggested that, in the ideal world, designs should be fully NCC compliant when prepared by the architect and the building surveyor should simply undertake an auditing role to confirm that the design is NCC compliant.[401]

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[390] ArchVicFG2.
[391] ArchNSWFG2.
[392] AcadFG2.
[393] ArchVicFG2.
[394] ArchNSWFG2.
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[396] ArchNSWFG2.
[397] BuildSurvFG2.
[398] GovVicFG2.
[399] BuildSurvFG2.
[400] Developer/BuilderFG2.
[401] ArchVicFG2.

138. Building surveyors stated that NCC compliance of architectural documentation has an impact on compliant outcomes in the built outcome.[402] If there is insufficient detail in the architectural documentation to demonstrate compliance, this can compromise the ability to deliver compliant built outcomes on-site.[403] Victorian government representatives suggested that higher quality architectural documentation is more likely to deliver better built outcomes.[404] Building surveyors agreed that the clarity of documentation is very important for all those involved in the process, including assessment and construction.[405] They noted that audit information indicates that non-compliance in architectural documentation can lead to non-compliant built outcomes.[406]

139. Building surveyors stated that NCC compliance issues can arise in relation to architectural documentation in two ways – namely, there is insufficient documentation (i.e. the documentation does not describe how the work will comply and how the building should be built) and, in rarer circumstances, the documentation does not comply in the sense that the work will not be compliant.[407]

140. NSW architects observed that architectural documentation should be compliant with the NCC because it only sets minimum standard, and this should avoid defects but it is up to contractors to interpret design drawings when building.[408] As the NCC just contains minimum standards, architectural documentation typically goes well beyond NCC compliance.[409]

141. Victorian architects stated that it is important to distinguish between delivering a compliant design and demonstrating that a design is compliant; D&C procurement may affect the extent to which NCC compliance must be demonstrated in design documentation prepared by architects. For example, there may be projects where architectural services are not required beyond schematic design and further design and documentation may be undertaken by others.[410]

142. Victorian government representatives stated that high quality architectural documentation is essential. References to NCC requirements and Australian Standards requirements within the documentation are very helpful.[411] NSW architects noted that the architect's specification explains in detail how NCC compliance has been met and includes references to the NCC and Australian Standards; adherence to the specification should ensure that a building is NCC-compliant and does not have any defects.[412]

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[402] BuildSurvFG2.
[403] BuildSurvFG2.
[404] GovVicFG2.
[405] BuildSurvFG2.
[406] BuildSurvFG2.
[407] BuildSurvFG2.
[408] ArchNSWFG2.
[409] ArchNSWFG2.
[410] ArchVicFG2.
[411] GovVicFG2.
[412] ArchNSWFG2.

143. Clients/users stated that clients should be informed throughout the project delivery process about NCC compliance, including whether and how NCC requirements are being met or exceeded and the cost implications.[413] Developers/builders suggested that there are generally good quality assurance processes in place with architects and other consultants to ensure that a good set of design documents is obtained in the first instance.[414] Victorian architects stated that the design process incorporates regulatory check points/reviews with regulatory compliance professionals, including a consultant building surveyor, followed by certification by the relevant building surveyor.[415]

Factors that can compromise architects' ability to ensure NCC compliance of designs

144. Focus group participants identified the following range of factors that can compromise architects' ability to ensure NCC compliance of designs, which are discussed in more detail below:

- procurement approach;
- regulatory features of the NCC; and
- lack of adequate oversight of interpretation of design documentation; and
- onerous obligations regarding compliance declarations.

Procurement approach

145. Academics stated that the procurement method is a big challenge – it may affect apportionment of responsibility and architects may not be paid sufficiently for the volume of documentation they are expected to produce to demonstrate NCC compliance.[416] Victorian architects agreed that the procurement approach may disempower architects, which may lead to NCC compliance being compromised in the built outcome, prompting the need for an alternative solution; whistleblower clauses can help to address this problem.[417] They also suggested that the pricing of design services may prioritise the design documentation over the conceptual design to ensure NCC compliance; fees for schematic design and design development are typically too low.[418] Academics suggested that there is a need to consider new procurement methods to determine how NCC compliance could be assured more comprehensively, like the old "Clerk of Works".[419]

[413] Client/UserFG2.
[414] Developer/BuilderFG2.
[415] ArchVicFG2.
[416] AcadFG2.
[417] ArchVicFG2.
[418] ArchVicFG2.
[419] AcadFG2. See Hegarty, M., *Bring Back the Clerk of Works*, 17 January 2019 on the ACA's website for more information about the Clerk of Works: https://aca.org.au/bring-back-the-clerk-of-works/.

Lack of adequate oversight of interpretation of design documentation

146. Victorian architects stated that where the architect is not involved throughout the project delivery process, the quality of architectural documentation could be called into question because that documentation is then taken over or interpreted by other parties, which could lead to defects.[420] Defects can arise if a building is not built according to the design specification.[421]

147. Victorian architects[422] and NSW architects[423] noted that architects are not on site every day and are not in a position to confirm NCC compliance in relation to the construction of all elements of a design by the builder because not all aspects are observable; the architect and the building surveyor will need to make certain assumptions in this context. Victorian government representatives stated that defects may arise when on-site practitioners are trying to interpret design documentation; it may be challenging for building surveyors to determine whether what is being built is consistent with the design documentation.[424] Building surveyors stated that there is scope for better communication about how architectural documentation should be interpreted and applied on site to ensure compliant built outcomes.[425]

Obligations regarding compliance declarations

148. NSW architects noted that the NSW DBP Act requires that architects certify that what they have designed is compliant with the NCC.[426] These compliance declarations can be challenging because architects are not experts in the NCC, they may be asked to take on responsibility for matters that are beyond their realm, there may be a myriad of other design professionals involved in a project, and there may be grey areas regarding who is responsible for NCC compliance.[427] NSW architects also suggested that NCC compliance needs to be embedded into every facet of the design, not just at the end of the process when the design gets signed off, although the NCC only sets baseline minimum requirements.[428]

Regulatory features of the NCC

149. The NCC is intended to be a comprehensive legal framework for regulating building construction. However, Victorian architects stated that the NCC is a rather crude document, does not communicate some requirements well, and includes provisions that come into conflict (e.g. waterproofing and universal access requirements).[429] The NCC provides limited guidance regarding building materials and access to information about compliant building materials may be challenging, particularly where suppliers do not provide that information or restrict use of

[420] ArchVicFG2.
[421] ArchNSWFG2.
[422] ArchVicFG2.
[423] ArchNSWFG2.
[424] GovVicFG2.
[425] BuildSurvFG2.
[426] ArchNSWFG2.
[427] ArchNSWFG2.
[428] ArchNSWFG2.
[429] ArchVicFG2.

certification documentation for intellectual property reasons, where CodeMark certification does not exist,[430] and where testing is too time-consuming and/or costly.[431]

150. Materials used in construction projects may need to be tested to demonstrate compliance with relevant performance requirements in the NCC. Building surveyors stated that there is scope under the NCC to use and test new materials, but there may be complexities associated with certifying these new materials and/or gaining access to certification information for intellectual property reasons.[432] Victorian architects noted that the cost of testing materials to determine whether they are NCC-compliant is substantial.[433]

151. The NCC references certain Australian Standards as part of the regulatory framework. These Australian Standards provide technical requirements and specifications for materials, products, systems, and construction methods used in building projects. NSW architects stated that access to Australian Standards can be costly and practically challenging and referencing these standards in design documentation to demonstrate compliance can be problematic for intellectual property reasons.[434] They suggested that Australian Standards should be made freely accessible.[435] Building surveyors also noted that Australian Standards do not comprehensively address all site-specific design issues and stated that the lack of access to Australian Standards can lead to building defects.[436] Victorian government representatives added that the Australian Standards may be ambiguous or nuanced and this may affect the level of detail in architectural documentation, particularly in the context of residential development.[437]

Mechanisms to mitigate the risks of NCC non-compliance

152. Focus group participants touched on possible mechanisms to mitigate the risks of NCC non-compliance, particularly in relation to architectural design.

153. Building surveyors suggested that the reliance on minimum standards in the NCC, rather than pursuing the performance solution pathway, may hinder good, innovative design that suits the particular context.[438] A challenge is to get the sector to move towards best practice and fit-for-purpose built outcomes.[439] However, building surveyors noted that there appears to be limited appetite in the sector to pursue the performance solution pathway under the NCC that can lead to good, innovative design because the sector prefers a black and white approach in relation to compliance.[440] NSW architects suggested that education of clients and consultants about the use of

[430] CodeMark is a voluntary third-party building product certification scheme, administered by the Australian Building Codes Board.
[431] ArchVicFG2.
[432] BuildSurvFG2.
[433] ArchVicFG2.
[434] ArchNSWFG2.
[435] ArchNSWFG2.
[436] BuildSurvFG2.
[437] GovVicFG2.
[438] BuildSurvFG2.
[439] BuildSurvFG2.
[440] BuildSurvFG2.

performance solutions may be required to drive good quality built outcomes; this may involve a reinterpretation of the intent of the NCC.[441] Victorian architects further suggested that it is necessary to establish a "beyond compliance" culture from an early stage in an architect's career.[442]

154. Building surveyors noted that technology could be used to assess and document NCC compliance.[443] However, NSW architects stated that software to check NCC compliance may be risky because of the overseas entities that have developed it and the dynamic nature of the NCC, which means that the software may not be up-to-date.[444]

Enhancing awareness of NCC obligations

155. Victorian architects stated that there does not appear to be any evidence that there is a lack of awareness of the need to ensure compliance with the NCC among architects, nor a resistance to achieving NCC compliance.[445] However, they also noted that staying abreast of NCC issues is a luxury for small practices, although NCC compliance is likely to be less of an issue for small residential buildings.[446]

156. As for architectural students, academics stated that there may be a lack of understanding regarding how universities educate architecture students about NCC compliance; it is untrue to state that the NCC is not being taught in universities.[447] Nonetheless, academics stated that universities need to ensure that architectural students have the right mindset regarding NCC compliance – that it needs to be addressed at the outset.[448] Students need to understand that NCC compliance is integrated into every facet of the design process. However, it is challenging for educators to communicate the details of NCC compliance; a basic understanding provided at university is best reinforced through practical experience.[449]

157. Building surveyors stated that more education is needed about the linkage between the design and the final built product and the critical importance of NCC compliance in the end-to-end process.[450] Academics suggested that consistent practical training about NCC compliance by experienced practitioners across all universities would be helpful.[451] Case studies about how to comply with the NCC would also be helpful for students.[452]

158. Victorian architects also raised the question about how architectural graduates can be better educated so that employers can rely upon them for a basic understanding of NCC compliance issues

[441] ArchNSWFG2.
[442] ArchVicFG2.
[443] BuildSurvFG2.
[444] ArchNSWFG2.
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[447] AcadFG2.
[448] AcadFG2.
[449] AcadFG2.
[450] BuildSurvFG2.
[451] AcadFG2.
[452] AcadFG2.

when they emerge from university.[453] Academics noted that students emerge from university with an understanding of how to navigate the NCC, but do not necessarily have a detailed understanding of the NCC itself and an ability to apply it.[454] Practical training after university should augment understanding of the NCC.[455]

159. NSW architects suggested that the onus falls on employers to help graduates' understanding of the NCC and how NCC compliance can be achieved, which can be quite onerous.[456] Academics stated that the quality of training graduates receive about the importance of ensuring NCC compliance in architectural documentation will vary depending upon the type of practice they work for.[457] Victorian architects stated that it is incumbent upon architect directors and other people running an architectural practice to ensure that students undertaking their two-year training understand the importance of ensuring NCC compliance in architectural documentation.[458]

160. NSW architects suggested that there should be regular NCC training for architects from graduation and throughout their career and they should be incentivised to attend (e.g. by making them free to attend).[459] They also suggested that there should be a helpline to clarify technical questions about NCC compliance, particularly in light of the ambiguity associated with some aspects of the NCC.[460]

161. Academics suggested that there is also scope for more education about the role and responsibilities in relation to NCC compliance among all sectoral participants.[461] NSW architects agreed that education about procurement models and associated NCC compliance roles and responsibilities would be beneficial for all sectoral participants, not just architects.[462] Building surveyors stated that there would be benefit in more education about the complexities of the roles and responsibilities of parties in ensuring NCC compliance across the project delivery process, from beginning to end.[463]

Role for the ARBs

162. Focus group participants discussed the role that the ARBs could play to address some of the issues raised in relation to architects' NCC obligations. NSW architects suggested that the ARBs could undertake advocacy work to clarify the role of architects in relation to NCC compliance.[464] Victorian architects stated that the ARBV's remit and funding needs to be expanded so that it can promote architects, not just focus on non-compliance.[465]

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[456] ArchNSWFG2.
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[461] AcadFG2.
[462] ArchNSWFG2.
[463] BuildSurvFG2.
[464] ArchNSWFG2.
[465] ArchVicFG2.

D. Disruptive change

Architects awareness and preparedness for disruptive change

163. NSW architects stated that architects are focused on their everyday practice so may follow the status quo rather than being ahead of disruptive change, unless a response to change is mandated.[466] They suggested that architects favour the status quo partly out of fear of going first and taking risk; they respond to change on an iterative basis, particularly in relation to technology, which may not adequately address disruptive forces.[467] NSW architects added that there is a lot of complacency within the profession, a lack of business acumen and entrepreneurial spirit; architects need to acknowledge that they have agency in securing change for themselves rather than waiting for others to act in their best interests.[468] Academics observed that the architecture profession is conservative by nature, and there may be an assumption that things have always been done the same way.[469] Victorian government representatives noted that for those that are willing to respond to disruptive change, there may be unexpected and unintended risks and consequences (e.g. cladding).[470]

164. Focus group participants were asked to consider how aware and prepared architects are for likely future disruptive change associated with climate change and technological developments. The discussion started with a recognition of the importance of the context for the delivery of architectural services. Victorian architects stated that architects' preparedness for disruptive change is contextualised by a myriad of societal, political, economic, and structural factors.[471] Clients/users agreed that architects' preparedness for disruptive change is linked to various factors including societal attitudes, government policy, clients' policy as well as exposure to particular issues in the context of projects that they have undertaken (e.g. electric vehicles (**EVs**)).[472] Academics also stated that the preparedness of architects for disruptive change is linked to how well prepared the broader society is; it was noted that some other cities around the world (such as Denmark) are far more prepared and know, for example, the precise amount of carbon each building can emit to ensure sustainability.[473]

165. According to the academics, research suggests that architects are not prepared for disruptive change and tend to be reactive rather than proactive.[474] Victorian government representatives stated that there is a spectrum in terms of the level of awareness and preparedness for disruptive change.[475] There is a long tail of architectural practitioners, including those involved in high volume and less complex developments, that are less aware and less prepared.[476] Victorian government

[466] ArchNSWFG4.
[467] ArchNSWFG4.
[468] ArchNSWFG4.
[469] AcadFG4.
[470] GovVicFG4.
[471] ArchVicFG4.
[472] Client/UserFG4.
[473] AcadFG4.
[474] AcadFG4.
[475] GovVicFG4.
[476] GovVicFG4.

representatives also observed that other practitioners in the sector who may also be unprepared for change (such as builders) will prefer to work with like-minded architects and other consultants.[477]

166. NSW architects explained that architects are focused on their everyday practice so may follow the status quo rather than being ahead of disruptive change, unless a response to change is mandated.[478] Victorian architects noted that some architectural practices are trying to lead the way by embracing disruptive change, being early adopters of approaches and technology, and pushing boundaries.[479]

167. Clients/users stated that despite the complexity of factors, and the fact that architects may have limited influence or control over responding to disruptive change, architects should nevertheless be aware and prepared for it.[480] Victorian architects agreed that architects need to be part of a society that pushes against resistance to change.[481] Academics noted that the dilemma for architects is that they are in the middle of a transformation which could result in a dramatic change in what it means to be an architect in Australia.[482] Academics further suggested that some activities and projects that architects currently undertake may become "extinct" in time; computers can already produce architectural documentation.[483] The Steering Committee considers that this comment implicitly underestimates the need for human involvement in the use of technological tools that can be used to facilitate the delivery of architectural services.

168. Academics observed that there is evidence to indicate that there are companies with a lot of capital that are looking to chip away at traditional architectural practices by taking advantage of the opportunities that disruptive change presents.[484] Developers/builders stated that big multinational firms are investing in sustainability and technology consultants in order to gain leverage in this environment.[485] NSW architects stated that the profession has the opportunity to embrace disruptive forces and radically reinvent what a more agile and responsive practice might look like; this could set a benchmark for the rest of the profession.[486]

Challenges faced by architects in responding to disruptive change

169. Focus group participants identified the following range of challenges that architects face in responding to disruptive change, which are discussed in more detail below:

- client's budgetary limitations;
- regulatory pressures; and
- lack of adequate education, training and tools.

[477] GovVicFG4.
[478] ArchNSWFG4.
[479] ArchVicFG4.
[480] Client/UserFG4.
[481] ArchVicFG4.
[482] AcadFG4.
[483] AcadFG4.
[484] AcadFG4.
[485] Developer/BuilderFG4.
[486] ArchNSWFG4.

Client's budgetary limitations

170. Victorian architects noted that architects are already seen as an expensive option for design services; performance solutions that respond to disruptive change are likely to increase costs.[487] NSW architects added that there is a significant financial and practical cost to respond to disruptive change for small-to-medium sized businesses and the benefits are not obvious.[488]

171. Building surveyors suggested that clients are focused on getting the highest yield from their buildings, and this may preclude appropriate responses to change (e.g. through energy efficiency measures).[489] Building costs affect the quality of buildings; these costs may wind back design ambition.[490] Victorian architects agreed that there is typically limited budget to respond to disruptive change.[491] They added that clients typically don't want to spend more; architects need to find a way to justify an approach that may involve higher costs in this context.[492] Clients/users acknowledged that the biggest obstacle is the client.[493] Buildings need to be "future proofed", but this may not be possible in light of the imperatives of the owner, client and builder.[494] Developers/builders added that developers are constantly looking to provide value for their clients, including by reducing costs.[495] Victorian government representatives suggested that clients typically do not want to move beyond the minimum standard of compliance towards a best practice model.[496] NSW government representatives noted that in the market for high rise apartments, there is little appetite to respond to disruptive change among all sectoral participants, including developers and builders.[497]

172. Developers/builders suggested that architects are often reactive to clients' briefs.[498] However, Victorian government representatives noted that the client may not support the design response and there may be competing priorities and pressure in the context of the broader construction process.[499] NSW architects added that clients may lack understanding about regulatory requirements, technological developments and design choices.[500] In addition, there may be insufficient time for architects to respond to disruptive change in some contexts[501]

173. Clients/users suggested that clients need to be educated to achieve the best solution (i.e. one that is functional and responds to disruptive change) because the client drives the aspiration, the budget and the fees for the project; architects are the "meat in the sandwich" in this context and need to be

[487] ArchVicFG4.
[488] ArchNSWFG4.
[489] BuildSurvFG4.
[490] BuildSurvFG4.
[491] ArchVicFG4.
[492] ArchVicFG4.
[493] Client/UserFG4.
[494] Client/UserFG4.
[495] Developer/BuilderFG4.
[496] GovVicFG4.
[497] GovNSWFG4.
[498] Developer/BuilderFG4.
[499] GovVicFG4.
[500] ArchNSWFG4.
[501] ArchNSWFG4.

in a position to educate and influence the client.[502] Architects need to play a role in collaborating, co-ordinating and synthesising information; they need skills to undertake this for complex organisations with varied stakeholders.[503]

174. Academics noted that younger clients, who are slowly assuming control of more conservative organisations, are easier to influence because they have a different perspective on disruptive change, particularly because the change will affect their future.[504] Victorian government representatives added that architects need to find a way to integrate themselves within the broader system to address some of the challenges associated with responding to disruptive change.[505]

Regulatory pressures

175. NSW architects stated that keeping up with relevant regulatory change can be challenging for architects (e.g. EV requirements).[506] Building surveyors suggested that the pace of recent legislative change in NSW may make it challenging for architects to respond to other changes, like climate change and technological change.[507] More specifically, the NSW DBP Act increases the burden on practitioners to document compliance, which may deter responses to disruptive forces that may be seen as a lower priority.[508]

176. NSW government representatives observed that the NSW DBP Act places more responsibility on practitioners involved in the construction process, including architects, which may lead to a reluctance to try new tools and techniques, especially since the statutory duty of care under the NSW DBP Act owed by architects and others carrying out construction work is for 10 years.[509] Developers/builders added that obligations under the NSW DBP Act means that developers expect more from architects in relation to NCC compliance; it is unclear whether they can meet these expectations as well as addressing climate change and technological change.[510]

177. Victorian government representatives noted that policy and regulatory standards may not keep pace with a changing context; this could compromise the ability to achieve best practice.[511] Victorian architects added that regulatory impediments may exist to reuse buildings (e.g. heritage protections).[512] NSW government representatives noted that major disasters can prompt the necessary response to disruptive change.[513]

[502] Client/UserFG4.
[503] Client/UserFG4.
[504] AcadFG4.
[505] GovVicFG4.
[506] ArchNSWFG4.
[507] BuildSurvFG4.
[508] BuildSurvFG4.
[509] GovNSWFG4.
[510] Developer/BuilderFG4.
[511] GovVicFG4.
[512] ArchVicFG4.
[513] GovNSWFG4.

Lack of adequate education, training and tools

178. Academics suggested that the education framework for architectural students is not capable of adjusting quickly enough to external change.[514] Digital tools enable architectural services to be provided at scale and at speed; architectural students need to be educated about the use of these tools.[515]

179. Victorian government representatives noted that it is important to consider whether new practitioners can meet increasing building demand while having the capacity to respond to disruptive change.[516] NSW architects stated that architects are not trained to adapt to significant disruptive change.[517] Developers/builders stated that CPD for architects should be broadened to cover disruptive change.[518]

180. Victorian architects also noted that tools to respond to disruptive change may not be readily available or may be too expensive.[519] Architectural practices should "test the water" with new tools as they become available.[520] Victorian architects added that fewer staff will be needed as a result of disruptive change but staff with skills to use new tools may be needed.[521] NSW architects also noted that disruptive forces may drive specialisation of services.[522]

Improving architects' capacity to respond to disruptive change

181. Focus group participants put forward a number of suggestions to improve architects' capacity to respond to disruptive change. Academics suggested that it is critical for architects to reflect on their business model for the 21st century given the dramatic change in the market in which they operate.[523] Developers/builders stated that architects need to have a vision of where they see themselves in the evolving market.[524] They need to take an active role and grow the value that they can offer, including by continually learning to keep pace with change, being across sustainability issues, and helping to ensure a joined-up approach in the context of a building project.[525] Further, architects need to become experts and claim the position of being able to solve problems caused by disruptive change, particularly climate change.[526]

182. Clients/users stated that architects have a high level of capability and sensitivity to the need to respond to disruptive change (particularly climate change), but they need to get a seat at the table

[514] AcadFG4.
[515] AcadFG4.
[516] GovVicFG4.
[517] ArchNSWFG4.
[518] Developer/BuilderFG4.
[519] ArchVicFG4.
[520] ArchVicFG4.
[521] ArchVicFG4.
[522] ArchNSWFG4.
[523] AcadFG4.
[524] Developer/BuilderFG4.
[525] Developer/BuilderFG4.
[526] Developer/BuilderFG4.

when a client's policy settings are being developed and be proactive rather than reactive.[527] NSW government representatives suggested that a collaborative approach with all relevant stakeholders to address the entire life cycle of a building will help overcome some of these challenges associated with disruptive change while delivering quality outcomes.[528] Academics suggested that, in the context of particular projects (e.g. government projects), cost-benefit and value-for-money assessments should account for longer-term issues associated with the life cycle of a building, such as carbon implications.[529]

Responding to climate change

183. The Systemic Risks Report discusses some of the opportunities, risks and challenges associated with climate change.[530] These issues were considered in more detail during the focus groups.

184. In terms of opportunities, Victorian architects stated that climate change presents a significant opportunity for architects and may help them differentiate themselves from other building designers.[531] Some practices have invested in how to mitigate the impact of buildings (e.g. by reducing energy usage), but there is more work to be done in relation to adapting buildings to the impacts of climate change.[532] NSW architects stated that good design can be achieved by using local materials, which should be used as much as possible; sourcing "sustainable" materials from overseas could be more harmful to the environment than sourcing materials locally.[533]

185. A variety of challenges and risks for architects in responding to disruptive change caused by climate change were identified by focus group participants:

- *Contradictory information*: NSW architects stated that some of the available information is contradictory, which make it challenging to respond.[534]
- *Financially unviable*: NSW architects also stated that some sustainable design solutions may not stack up financially.[535]
- *Uncertain outcomes*: NSW government representatives stated that the quality of a building must be assessed by determining whether it actually works in the context in which it is used; it may be difficult to predict whether a building achieves quality outcomes until after the project is complete and the building is in use.[536] NSW architects also stated that sustainable solutions may be rejected by building surveyors when NCC compliance is assessed (because, for example, a product has not been locally tested)

[527] Client/UserFG4.
[528] GovNSWFG4.
[529] AcadFG1.
[530] Systemic Risks Report, Chapter 8.
[531] ArchVicFG4.
[532] ArchVicFG4.
[533] ArchNSWFG4.
[534] ArchNSWFG4.
[535] ArchNSWFG4.
[536] GovNSWFG4.

- *Regulation outpaced by the context*: Academics suggested that there needs to be a shift from "efficiency" to "sufficiency"; regulation may be needed to rule certain projects out.[537] Victorian architects stated that the concept of future proofing buildings is impossible; buildings will instead need to adapt to a changing context over time.[538] There needs to be a recalibration of what "heritage" is to enable reuse of buildings.[539]

- *Lack of adequate skills*: Academics stated that, in the future, building development will need to involve significant re-use, but these skills are not common within the profession.[540] Clients/users stated that architects need to understand the whole life cycle of a building when considering up front capital costs and ongoing operational costs; often this is left to engineers who may also be under-prepared.[541] NSW government representatives stated that architects need to use the local context (including climate) and local knowledge and collaborate with the local community to ensure that a building best suits local needs.[542] Ensuring quality in regional and remote areas is especially an issue, particularly where Aboriginal and Torres Strait Islander communities reside; a commitment to community and collaboration is needed in this context.[543]

Responding to technological change

186. The Systemic Risks Report also discusses some of the opportunities, risks and challenges associated with technological change.[544] These issues were considered in more detail during the focus groups.

187. In relation to opportunities, NSW architects stated that new tools (e.g. algorithmic design) are emerging, which may enhance the provision of architectural services, reduce costs and make design better.[545] Academics noted that digital tools enable architectural services to be provided at scale and at speed; architectural students need to be educated about the use of these tools.[546] Victorian architects also stated that new design tools can be used to architects' advantage but there may need to be mechanisms to ensure that these tools don't result in bad design.[547] NSW architects suggested that architects should use new tools to highlight their value.[548] However, developers/builders stated that to demonstrate value, architects need to be able to back up an understanding of feasibility with good design; business acumen and entrepreneurship are important.[549]

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[537] AcadFG4.
[538] ArchVicFG4.
[539] ArchVicFG4.
[540] AcadFG4.
[541] Client/UserFG4.
[542] GovNSWFG4.
[543] GovNSWFG4.
[544] Systemic Risks Report, Chapter 9.
[545] ArchNSWFG4.
[546] AcadFG4.
[547] ArchVicFG4.
[548] ArchNSWFG4.
[549] Developer/BuilderFG4.

188. Developers/builders stated that artificial intelligence (**AI**) will have a significant impact on the provision of architectural services as well as construction.[550] Academics agreed that AI is a major disruptor, but uptake has been slow; there is a lot of anxiety and suspicion around AI within the profession in terms of what it means for the scope of architects' services and how those services should be priced.[551] NSW architects stated that AI is concerning for small practices, particularly the prospect that some home owners can use AI apps to design their own homes.[552] Nevertheless, architects must jump on board with technological change or risk being left behind.[553]

189. Regarding challenges arising from technological change, Victorian architects stated that a lot of effort needs to be invested to stay ahead of some disruptive change, particularly technological change.[554] Architects need to be aware of technological change that is occurring throughout the sector (e.g. in relation to construction methods), not just in relation to the provision of architectural services.[555] Academics noted that, in order to achieve quality design in this context, humans will need to work with computers; humans will be involved in understanding the client's needs and then translating that into a design with the use of a computer.[556] NSW government representatives referred to advances in manufactured housing and stated that an important challenge is getting repeatable factory-made buildings.[557]

190. Risks associated with technological change were also discussed by focus group participants. Developers/builders stated that manufactured housing may change the need for architectural services.[558] Academics stated that architecture essentially involves geometry, which can be processed by a computer better than a human so there is a huge potential for significant technological disruption.[559] Victorian architects stated that some clients may expect to pay less for architectural services because they assume that technology can substitute some of those services.[560] There is also a risk that technological change could lead to a reduction in quality because of the assumption that technology makes things easier, more efficient, and faster whereas design is a non-linear process.[561] NSW architects noted that new digital tools may make bad design more accessible.[562]

[550] Developer/BuilderFG4.
[551] AcadFG4.
[552] ArchNSWFG4.
[553] ArchNSWFG4.
[554] ArchVicFG4.
[555] ArchVicFG4.
[556] AcadFG4.
[557] GovNSWFG4.
[558] Developer/BuilderFG4.
[559] AcadFG4.
[560] ArchVicFG4.
[561] ArchVicFG4.
[562] ArchNSWFG4.

Other types of disruptive change

191. While the Systemic Risks Report focused on disruptive change caused by climate change and some technological changes, focus groups were asked to identify other causes of disruptive change that could affect the architecture profession. These have been summarised below.

Market instability and failure

192. Victorian architects stated that volatility in the construction industry is a significant issue, particularly in the context of D&C contracts; architects have to do more work to salvage projects but there are also time and cost pressures that can lead to poor design outcomes and non-compliance.[563] Clients/users agreed that construction insolvencies are a major challenge, although they were predicted by courts during the Covid-19 pandemic.[564]

193. Victorian government representatives added that market failure is a disruptor, such as market exit due to over-regulation, increases in PI insurance, and unprofessional conduct leading to poor outcomes.[565] The culture within the construction sector of doing the minimum rather than doing the right thing is a significant risk.[566] NSW architects added that key disruptors are interest rates and the financial position of clients.[567]

Over-regulation

194. NSW architects stated that there is too much regulation which increases the cost of doing business; increased compliance or regulatory requirements do not necessarily lead to better design.[568] Victorian government representatives added that lack of confidence in the building sector may lead to further regulatory reforms that may have a direct or indirect impact on architects; there may be greater pressure to document compliance and "self-certify".[569] Victorian architects stated that some regulation has softened (e.g. planning regulations), which makes it easier for less qualified designers to navigate requirements; regulation needs to be tightened in the interests of better urban design.[570]

Geopolitical developments

195. Clients users stated that pandemics (the next one), the global economy and the effects of war are major disruptors because they have an impact on fragile global supply chains.[571] Victorian government representatives noted that international instability has an impact on supply chains and

[563] ArchVicFG4.
[564] Client/UserFG4.
[565] GovVicFG4.
[566] GovVicFG4.
[567] ArchNSWFG4.
[568] ArchNSWFG4.
[569] GovVicFG4.
[570] ArchVicFG4.
[571] Client/UserFG4.

access to materials. It also puts pressure on local markets and may compromise the capacity to deliver the best design solutions.[572]

Skills shortage

196. Victorian government representatives stated that Victoria's Housing Statement is a significant policy initiative around increasing the volume of affordable houses; it is unclear whether there are sufficient skills across the industry to meet demand and deliver safe, durable houses.[573] Building surveyors added that getting the right people to fill the right roles can be challenging given the current labour market.[574]

Role for the ARBs

Advocacy

197. Victorian architects suggested that the ARBs should advocate for architects and the profession in the context of government policy.[575] The marginalised role of architects in the D&C context could be addressed by advocating for architects to be included in tender review panels, thereby providing architects with a "seat at the table".[576] Victorian government representatives stated that providing opportunities for sectoral participants to come together to discuss systemic issues and have their voices heard is very useful and will help provide an evidence base for policy making and legislative change.[577]

Leadership and culture

198. NSW architects stated that the ARBs can support leadership and positive culture within the profession so that the profession can drive the necessary change rather than waiting for other bodies to do that for them.[578] NSW architects suggested that the ARBs could establish an opportunity for architects to reflect on the nature and role of the profession in light of disruptive change; insights from different practitioners and sectors could be useful.[579] Clients/users also suggested that the ARBs could help address the variability in the quality and standard of services provided by architects.[580] The diversity and complexity of the profession should be recognised and accounted for in the support provided by the ARBs.[581] Academics stated that the ARBs need to consider how to cater to all their constituents given their very different skills and needs, including the two main types of architectural practices – the small practices and the large practices.[582]

[572] GovVicFG4.
[573] GovVicFG4.
[574] BuildSurvFG4.
[575] ArchVicFG4.
[576] ArchVicFG4.
[577] GovVicFG4.
[578] ArchNSWFG4.
[579] ArchNSWFG4.
[580] Client/UserFG4.
[581] Client/UserFG4.
[582] AcadFG4.

Education and training

199. NSW government representatives stated that education and training of architects is critical and, over time, will help to mitigate risks.[583] NSW architects stated that educational support by the ARBs to help architects navigate disruptive change will enhance architects' ability to influence those around them.[584] More specifically, academics stated that there is a need for CPD that helps architects navigate disruptive change, including courses about how to run a business and about the use of digital tools.[585] Developers/builders stated that shifting the profession's approach from reactive to proactive is important.[586] Developers/builders and academics stated that there needs to be a commitment by architects to lifelong learning.[587]

200. Victorian architects stated that the ARBs and educational institutions need to work harder at ensuring that education is robust and that students emerging from university have the necessary knowledge and skills.[588] Developers/builders suggested that consideration could be given to accreditation of different types of architectural specialists.[589]

201. NSW architects suggested that clients also need to be educated about the impact of disruptive change.[590] Victorian government representatives stated that clients or consumers of architectural services could be better educated about the architect's role but also the client's role in ensuring an appropriate level of service and quality outcomes, not just price.[591] NSW government representatives also stated that the public needs to be educated about the benefits of using architects.[592]

[583] GovNSWFG4.
[584] ArchNSWFG4.
[585] AcadFG4.
[586] Developer/BuilderFG4.
[587] AcadFG4; Developer/BuilderFG4.
[588] ArchVicFG4.
[589] Developer/BuilderFG4.
[590] ArchNSWFG4.
[591] GovVicFG4.
[592] GovNSWFG4.

APPENDIX D: ABBREVIATIONS FOR FOCUS GROUP PARTICIPANTS

The references to focus group comments in this report include an abbreviation to identify the stakeholder group who made the comment (see table below) as well as a suffix to identify the relevant focus group in which the comment was made. Focus Group 1 (FG1) covered D&C procurement; Focus Group 2 (FG2) covered NCC compliance; Focus Group 3 (FG3) covered client architect-relationships and agreements, and Focus Group 4 (FG4) covered disruptive change.

STAKEHOLDER GROUP	ABBREVIATION
Victorian architect/industry body	ArchVic
NSW architect/industry body	ArchNSW
Client/user	Client/User
Developer/builder	Developer/Builder
Building surveyor	BuildSurv
Academic	Acad
Victorian government representative	GovVic
NSW government representative	GovNSW
Insurer/broker	Insurer/Broker