

**PROPOSAL FOR CHANGE  
NATIONAL CONSTRUCTION CODE SERIES**

**HEATING OF A SWIMMING POOL**

<b>BCA Volume One:</b>	N/A
<b>BCA Volume Two:</b>	3.12.5.7
<b>PCA Volume Three:</b>	N/A

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**The proposal**

**1. What is the proposal?**

**Modify Clause 3.12.5.7 in Volume Two National Construction Code to reflect the exact wording in Part J7.3 of Volume One.**

That is, Part 3.12.5.7 would now read:–

*NCC Volume Two – 3.12.5.7 Heating and pumping of a swimming pool or spa pool:*

- (a) *Heating for a swimming pool or a spa pool (excluding portable spas) must be by: –*
- (i) *a solar heater not boosted by electric resistance heating; or*
  - (ii) *a heater using reclaimed energy; or*
  - (iii) *a gas heater; or*
  - (iv) *a heat pump; or*
  - (v) *a combination of 2 or more of (i), (ii), (iii) and (iv)*
- (b) *Where some or all of the heating required by (a) is by a gas heater or a heat pump, the swimming pool or spa pool (excluding portable spa) must have: –*
- (i) *a cover other than when located in a conditioned space; and*
  - (ii) *a time switch to control the operation of the heater.*
- (c) For the purposes of this change, the distinction made in the current wording of 3.12.5.7 is removed in relation to spa pools. That is, the revisions proposed would apply to spa pools whether they share water recirculation with a swimming pool, have independent recirculation or be of fully independent construction.

## The current problem

### 2. What problem is the proposal designed to solve?

When read literally, the current wording of 3.12.5.7 allows for the heating of a swimming pool (associated with a Class 1 or Class 10 Building) only by a solar heater but not boosted by electric resistance heating.

This ruling denies Class 1 or Class 10 Building owners, i.e. residential, the opportunity to select alternative heating options. In particular, this denies access to the four further heating options nominated under J7.3, i.e. a heater using reclaimed energy; a gas heater; a heat pump; or a combination of 2 or more of these options plus solar.

The current position is contradictory and there is absolutely no basis on which to allow this discrepancy in available heating choice between the commercial and residential markets. The exact same logic which allows the use of these broader heating choices to Class 2 to Class 9 Buildings needs to apply equally to Class 1 and Class 10 Buildings.

The exclusion of these further heating choices cannot be justified either on **practical, environmental or economic grounds**.

The exclusion of all options other than solar for pool heating is utterly **impractical** when it is recognised that:

- a) Whilst the heating of a swimming pool by solar is effective the temperature can be variable resulting in differing lengths of “heating” season and variations in pool temperature within the season, by application.
- b) The heat contribution of the solar system is tied to the solar radiation characteristic of the individual geographic location. As such, a restriction to solar heating only sees pool owners in cooler climate zones of Australia disadvantaged by not being able to achieve alternative and/or additional heating solutions to meet their optimum heating preferences.
- c) The heat contribution of a solar system is tied to numerous site conditions which relate to optimal collector sizing, placement and orientation. Such conditions are not always ideal or achievable.
- d) While all swimming pool owners would expect the liberty to heat their pool to a determined temperature consistent with comfort or the use of the pool on any given day, this may not be feasible year round with reliance on solar heating alone.
- e) For some pool users, the need for a controlled and continuous pool temperature is essential for therapeutic or rehabilitation reasons.

SPASA AUSTRALIA strongly believes that the impracticalities of 3.12.5.7 as outlined above are sufficient to dictate change to the current wording. The existence of a vibrant heat pump and gas pool heating industry in Australia is evidence itself of the level of demand by residential swimming pool owners for heating methods other than solar.

Thousands of residential swimming pool owners each year seek either a higher pool temperature or longer heating season than can sometimes be provided by solar alone. Some homeowners are unable to install any or adequate solar coverage due to physical constraints at site which may include the need to preserve available roof space for the installation of photovoltaic type solar collector for the provision of green energy to their home or to the grid.

SPASA AUSTRALIA likewise contends that the restrictive impact of the current wording lacks **environmental** rigour in that it denies use of other alternative renewable energy sources acceptable for reducing greenhouse gas emissions to the NCC in other applications.

In this vein, it likewise denies access to the four further heating options nominated under J7.3. The exclusion of gas or heat pump is at odds with the acceptance of these technologies in J5.4 for Heating and Cooling Systems.

Clause 3.12.5.7 also appears to contradict the provisions of Volume Two, P2.6.2 which seems to create an alternative pathway for the use of a heat pump, as the technology would meet the requirement of P2.6.2 (b) (i) – that a building’s domestic services may obtain heating from a source that has a greenhouse gas intensity that does not exceed 100g of CO2 e/MJ of thermal energy load.

The **negative economic** impact of strict interpretation of 3.12.5.7 is also clear and demands re-instatement of consumer choice for pool heating.

The Australian gas and heat pump market for residential pool heating is directly valued at some \$19M per annum and includes both Australian manufacturers and importers. The allied industries include installation and maintenance, as well as component suppliers, etc. The current provisions of 3.12.5.7 would deny the use of these products to those sites where NCC provisions apply.

SPASA AUSTRALIA estimates that of the \$19M total market value, sales of gas and heat pump pool heaters associated with new pool construction accounts for some 40% (\$7.6M). Based on an estimated average sale price of \$3,000 - \$4,000 plus GST, this represents an estimated 2,171 installations.

These installations will be spread across all States roughly in accordance with construction activity but noting that weather and socioeconomics will impact the propensity to add heating to a new pool.

Estimate of swimming pools constructed annually in Australia is set out below:

<b>Estimate of Average New Pool Construction by Year, by State</b>	
NSW	5,500
VIC	4,500
WA	3,500
QLD	3,000
SA	2,000
<b>TOTAL</b>	<b>18,500</b>

**NOTE:**  
Renovations of Swimming Pools are not included in the above figures and we estimate these to be 30 % on the above numbers

### **3. What evidence exists to show there is a problem?**

The problematic impact of 3.12.5.7 is self-evident and describe above.

In practical terms, the problem is outworked by certifiers at State level seeking to bypass 3.12.5.7 by reference to the acceptable construction manual or other alternative pathway so to allow the use of other heating options, most commonly gas or heat pump heating.

Section 3.12.5.0 is contained within the acceptable construction manuals and this refers to AS3500.4 and 3500.5 which does not have the explicit restrictions evident in 3.12.5.7. The acceptable construction manuals also state that those standards are a means of demonstrating compliance with Part 3.12.5. (Part 3.12.5 includes 3.12.5.1 to 3.12.5.7).

By way of example of the varying interpretations that apply to the current Codes, we would highlight an email of 13/11/12 by Apex Certification and Consulting broadcast to some 40 Queensland pool industry participants, in which Mark Duffy of Apex advised that “Heat Pumps are no longer a legal form of heating for a domestic swimming pool”.

This advice is contrary to that from the Queensland Department of Local Government and Planning, which advised by email of 16/11/12 (Peter Rourke) that “we consider that the acceptable construction manual does not preclude the use of heat pumps for heating water in swimming pools”.

SPASA AUSTRALIA contends that the ABCB will quickly determine that the case for change is self-evident in the non-adoption by the States of the existing provisions as outlined above by the Queensland Department of Local Government and Planning.

The impracticality of the current provision is reflected by the choice by all States to find an alternative pathway or by the simple actions of the market to by-pass the current provisions by the installation of gas or heat pump pool heating after certification.

<b>The objective</b>
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### **4. How will the proposal solve the problem?**

The proposal is to modify Clause 3.12.5.7 in Volume Two of the National Construction Code to reflect the wording in Part 7.3 of Volume One.

These new provisions would address all of the problems identified above.

The recognition of the essential role of gas heating or heat pump gives a practical choice to - pool owners without suitable roof design for collector installation; those seeking a constant pool temperature or year-round or extended season heating; those in geographic areas with limited solar capacity, and those seeking constant higher temperature for therapeutic reasons. Likewise, this addresses the potential

negative economic impact on the Australian swimming pool construction and gas and heat pump heating sectors (including allied manufacture, importation, installation and service industries) previously identified.

**5. What alternatives to the proposal (regulatory and non-regulatory) have been considered and why are they not recommended?**

SPASA is strongly of the view that the amendment of 3.12.5.7 to give consistency between Volume One and Volume Two is the appropriate response.

Whilst the retro installation of heat pumps and gas heaters is also a possibility after the swimming pool is constructed and certified it removes any rigor as well as the ability for regulators to ensure appropriate and compliant products are installed at the start of the construction process rather than after an occupation certificate is provided.

**The impacts**

**6. Who will be affected by the proposal?**

The proposal will impact favourably on the Australian swimming pool industry, allied heating manufacturers, installers and service sectors and swimming pool owners.

**7. In what way and to what extent will they be affected by the proposal?**

The acceptance of the proposal as put forward in this submission would remove the significant economic threat posed by the current code.

The current wording of 3.12.5.7 seriously imperils the Australian gas and heat pump market for residential pool heating which has a direct value estimated at \$19M per annum and includes both Australian manufacturers and importers. This figure excludes the substantial value of allied industries including installation and maintenance, as well as component suppliers, etc. and the negative flow-over impact on new pool construction. The combined market value is seen to be in the range of \$40M.

Over and above the economic benefit, the proposal made would allow swimming pool owners to achieve full functionality from their swimming pool investment by being able to install heating technology which has the capacity to provide the water temperature or length of season of their choosing or need. This includes swimming pool owners requiring constant high temperature for medical and other therapeutic reasons.

## Consultation

### 8. Who has been consulted and what are their views?

In responding to this issue, SPASA has consulted with its member base of individuals and businesses representing pool builders, manufacturers, suppliers, retailers, service, subcontractors, installers and consultants from the swimming pool and spa industry Australia-wide.

#### **List of Companies Consulted**

Associated Controls (Aust) Pty Ltd	Astralpools Pty Ltd
Clevaquip (Hayward) Pty Ltd	Davey Water Products Ltd
EVO Industries Australia Pty Ltd	Heliocol Solar Pty Ltd
Maytronics Pty Ltd	OASIS Industries Ltd
Pentair Water Pty Ltd	Pool Water Products Pty Ltd
Rheem Pool Heating Pty Ltd	Solar Splash Pty Ltd
Solartech Pool Heating Pty Ltd	Sunbather Technologies Pty Ltd
Sunlover Heating Pty Ltd	Thermo Pools Pty Ltd
Toyesi Pty Ltd	Waterco Limited
Zodiac Group Australia Ltd	

SPASA AUSTRALIA remains committed to working with ABCB to ensure the objectives of this “Proposal for Change” are adopted.

We firmly believe that points raised within this document support the changes sought and provide industry with economic certainty whilst providing consumers with sensible and justifiable heating alternatives.

Please do not hesitate to contact me on the listed contact details should you require additional information or clarification on this Proposal for Change.

Yours Sincerely



**Spiros Dassakis – CEO  
Swimming Pool and Spa Alliance**