

IES-MOM Seminar on "Moving Beyond Nicoll Highway Incident"

SCOPE AND EXTENT OF ENGINEERS' LEGAL RESPONSIBILITIES FOR DEFECTS AND CONSTRUCTION ACTIVITIES ON SITE

presented by

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Introduction

- Duties and obligations may arise from or are defined and circumscribed by the following:
 - ✓ the terms and conditions of the contract of appointment
 - ✓ the law of tort, in particular, the law of negligence
 - ✓ statutory duties

Contractual Duties & Obligations

- Terms may be expressed or implied
- Need to look beyond the terms of the contract of engagement
- Duty owed only to client – doctrine of privity of contract

Tortious liabilities

- Generally, under a duty to take care so as not to cause personal injury to those persons whom they can reasonably foresee may be injured as a result of their negligence or to cause damage to property other than that for which their services were engaged

Tortious liabilities

- Duty not only owed to client but may also be owed to third parties

For example, duty may be owed to :

- Management corporations
 - ✓ *RSP Architects Planners & Engineers (Raglan Squire & Partners F.E) v The MCST Plan No. 1075 & Ors [1999] 2 SLR 449, CA (“Eastern Lagoon”)*

Tortious liabilities

- Duty not only owed to client but may also be owed to third parties

For example, duty may be owed to :

- The employer of a project even though the engineer may be employed by the architect or the contractor
 - ✓ *District of Surrey v Carroll-Hatch & Associates (1979) 101 DLR (3d) 218, CA (British Columbia)*

District of Surrey v Carroll-Hatch & Associates
(1979) 101 DLR (3d) 218, CA (British Columbia)

- Structural engineer engaged by architect was held to owe the employer a duty of care, notwithstanding that there is no contract between him and the employer
- Structural engineer found negligent in failing to warn the employer of the need for a deep soil report and of the risks in proceeding with the construction without such a report

Tortious liabilities

- Duty not only owed to client but may also be owed to third parties

For example, duty may be owed to :

- Subsequent purchaser of property sold by the developer who engages the engineer
 - ✓ *Steven Phoa Cheng Loon v Highland Properties Sdn Bhd* [2000] 4 MLR 200

Tortious liabilities

- But, an engineer engaged by the employer would not be liable to contractor in tort for any negligence in the carrying out of his duties under the building contract
 - ✓ *Hong Huat Development Co (Pte) Ltd v Hiap Hong & Company Pte Ltd* [2000] SGHC 131
 - ✓ Cf. *Spandeck Engineering (S) Pte Ltd v Defence Science & Technology Agency* [2006] SGHC 229

Tortious liabilities

- An engineer engaged by the employer also does not owe any obligation to the contractor to supervise him or correct any erroneous way of working
 - ✓ *Clayton v Woodman & Son (Builders) Ltd* [1962] 2 QB 533
- But, duty may be owed to the employer

What is the standard of duty of care expected of an engineer ?

- Generally, that of reasonable skill, care and diligence of an ordinary competent and skilled engineer
- Errors on the part of the engineer will not automatically lead to a finding of negligence or a failure to exercise reasonable care and skill

Bolam v Friern Hospital Management Committee
[1957] 1 WLR 582 – test was set out as follows :

“Where you get a situation which involves the use of some special skill or competence ... the test is the standard of the ordinary skilled man exercising and professing to have that special skill. A man need not possess the highest expert skill ... it is sufficient if he exercises the ordinary skill of the ordinary competent man exercising that particular art.”

What is the standard of duty of care expected of an engineer ?

- Negligence is “determined in an objective manner and not according to subjective standards and the court must always be free to scrutinise the practices adopted by professionals and decide whether these practices are appropriate by reference to objective criteria”

What is the standard of duty of care expected of an engineer ?

- The general standard of reasonable care and skill would not apply if there is an implied or express term that the design would be reasonably fit for the purpose contemplated
- Example, in a design & build arrangement

Greaves & Co (Contractors) Ltd v Baynham Meikle & Partners [1975] 3 AER 99

The facts :

- Contractors agreed to design and construct a warehouse and office for a company which intended to use the warehouse for storage of barrels of oil.
- Contractors sub-constructed the design of the warehouse to a firm of consultant structural engineers.

Greaves & Co (Contractors) Ltd v Baynham Meikle & Partners [1975] 3 AER 99

The facts :

- Structural engineers were informed by contractors of the purpose for which the warehouse was required.
- In particular, they were informed of the fact that the first and upper floors of the warehouse would have to take the weight of fork-lift trucks carrying heavy barrels of oil.

Greaves & Co (Contractors) Ltd v Baynham Meikle & Partners [1975] 3 AER 99

The facts :

- The warehouse, which was built following the structural engineers' design, was brought into use and the floors began to crack.
- The cracks were found to be a result of vibration of the fork-lift trucks and that the design did not make sufficient allowance for such vibration.

Greaves & Co (Contractors) Ltd v Baynham Meikle & Partners [1975] 3 AER 99

The facts :

- Contractors were found liable to the clients for the cost of the remedial works, and they seek to recover the cost from the structural engineers.

Contractor's arguments :

- It was an implied term of their sub-contract with the structural engineers that the design would be fit for its intended purpose.

**Greaves & Co (Contractors) Ltd v Baynham Meikle
& Partners [1975] 3 AER 99**

Court of Appeal HELD:

- Structural engineers had, on the facts of the case, been negligent in their design and were therefore liable to the contractors.
- Even if the structural engineers had not been negligent, they would still be liable to the contractors for their design failure.

Greaves & Co (Contractors) Ltd v Baynham Meikle & Partners [1975] 3 AER 99

Court of Appeal HELD:

- Although it could not be assumed that every designer would be taken to warrant the fitness of his design, such term could be implied into the sub-contract made between the contractors and the structural engineers because, on the particular facts of the case, the structural engineers had always regarded their brief as being the design of a warehouse for a particular purpose, and could be taken to have guaranteed that it would be fit for that purpose when completed.

Greaves & Co (Contractors) Ltd v Baynham Meikle & Partners [1975] 3 AER 99

Lord Denning said:

“The law does not usually imply a warranty that he will achieve the desired result but only a term that he will use reasonable skill and care. The surgeon does not warrant that he will cure the patient. Nor does the solicitor warrant that he will win the case. But, when a dentist agrees to make a set of false teeth for a patient, there is an implied warranty that they will fit his gums, see Samuels v Davis (1943).”

Greaves & Co (Contractors) Ltd v Baynham Meikle & Partners [1975] 3 AER 99

Lord Denning said:

What then is the position when an architect or an engineer is employed to design a house or a bridge? Is he under an implied warranty that, if the work is carried out to his design, it will be reasonably fit for the purpose or is he only under a duty to use reasonable skill and care? This question may require to be answered some day as a matter of law. But, in the present case, I do not think we need answer it. For the evidence shows that both parties were of one mind on the matter. Their common intention was that the engineer should design a warehouse which would be fit for the purpose for which it was required. That common intention gives rise to a term implied in fact."

But see, *George Hawkins v Chrysler (UK) Ltd and Anor* [1986] 38 BLR 36

The facts :

- Engineers were engaged to design a shower room with ancillary equipment.
- After inquiries with a manufacturer, they selected a vinyl non slip floor covering.
- A workman slipped on the floor and was injured.
- The workmen sued the factory owners, who joined in the engineers as third parties

But see, *George Hawkins v Chrysler (UK) Ltd and Anor* [1986] 38 BLR 36

Factory owners' arguments :

- Engineers had been negligent and in breach of an implied warranty that the floor surface would be fit for use in wet and soapy conditions.

But see, *George Hawkins v Chrysler (UK) Ltd and Anor* [1986] 38 BLR 36

Court of Appeal held :

- On the facts of the case, the engineers had not warranted that their design would be fit for its intended purpose.
- In distinguishing from *Greaves* case, it decided, on the facts, that there was nothing to give rise to the inference of any warranty other than to take reasonable care.

But see, *George Hawkins v Chrysler (UK) Ltd and Anor* [1986] 38 BLR 36

Court of Appeal held :

- Unless the special facts and circumstances of the case warranted it, it was not open to the Court to *“extend the responsibilities of a professional man beyond the duty to exercise all reasonable skill and care in conformity with the usual standards of his profession”*.
- As the law now stands, *“a warranty of fitness for purpose will not be implied as a matter of law where the consulting engineer is retained to advise or to design”*.

Statutory duties

Main legislations :

- Building Control Act (Cap 29)
(1999 Revised Edition) (“BCA”)
- Workplace Safety and Health
Act 2006

Statutory duties

Relevant regulations:

- Building Control Regulations 2003
- Building Control (Temporary Buildings) Regulations
- Building Control (Accredited Checkers) Regulations 2000

Statutory duties

Relevant regulations:

- Workplace Safety and Health (General Provisions) Regulations 2006
- Workplace Safety and Health (Incident Reporting) Regulations 2006
- Workplace Safety and Health (Registration of Factories) Regulations 2006
- Workplace Safety and Health (Risk Management) Regulations 2006

Main duties imposed under the Building Control Legislations

The QP :

- To prepare plans for the building works [s 6(3)]

6(3) Approval of plans and appointment of qualified person

Subject to the provisions of this Act, every person for whom any relevant building works are or are to be carried out, or the builder of such building works, shall, before an application is made under subsection (1), appoint —

(a) an appropriate qualified person **to prepare the plans** of the building works in accordance with the building regulations; ...

9(3) Duties of qualified persons

Every qualified person appointed under section 6(3)(a) to prepare the plans of any building works shall —

- (a) **take all reasonable steps and exercise due diligence** to ensure that the building works are designed in accordance with —
 - (i) the provisions of this Act; and
 - (ii) subject to section 14, the requirements prescribed in the building regulations;

9(3) Duties of qualified persons

Every qualified person appointed under section 6(3)(a) to prepare the plans of any building works shall —

- (b) **notify the Commissioner of Building Control of any contravention** of the provisions of this Act or the building regulations in connection with those building works; and
- (c) **supply** to the site supervisor, the builder of the building works and the qualified person appointed under section 6(3)(b) to supervise building works a copy of every plan of those building works approved by the Commissioner of Building Control.

9(3A) Duties of qualified persons

For the purpose of subsection (3) (a) —

...

(b) where the qualified person appointed under section 6(3)(a) to prepare the plans of any building works intends to utilise any **alternative solution** (that is to say, a solution that entails the use of any design, material or construction method that differs completely or partially from those in the acceptable solution), he shall —

(i) take all reasonable steps and exercise due diligence to ensure that the alternative solution satisfies the objectives and performance requirements that are prescribed by the building regulations in respect of such building works; or

9(3A) Duties of qualified persons

For the purpose of subsection (3) (a) —

...

(b) where the qualified person appointed under section 6(3)(a) to prepare the plans of any building works intends to utilise any **alternative solution** (that is to say, a solution that entails the use of any design, material or construction method that differs completely or partially from those in the acceptable solution), he shall —

(ii) obtain the certification of another qualified person, being a specialist in the application of such an alternative solution, that the alternative solution satisfies the objectives and performance requirements that are prescribed by the building regulations in respect of such building works.

9(3B) Duties of qualified persons

No qualified person shall issue any certification for the purposes of subsection (3A)(b) (ii) unless he has **taken all reasonable steps and exercised due diligence to ensure that the alternative solution** in respect of which his certification is being sought satisfies the objectives and performance requirements that are prescribed by the building regulations in respect of the building works for which the alternative solution is to be applied.

Main duties imposed under the Building Control Legislations

The QP :

- To prepare plans for the building works [s 6(3)]
- To supervise the building works [s 6(3)]

6(3) Approval of plans and appointment of qualified person

Subject to the provisions of this Act, every person for whom any relevant building works are or are to be carried out, or the builder of such building works, shall, before an application is made under subsection (1), appoint —

..

(b) the same or another appropriate qualified person **to supervise the building works** as required under section 8.

9(3C) Duties of qualified persons

Every qualified person appointed under section 6(3)(b) to supervise the building works shall —

- (a) **take all reasonable steps and exercise due diligence in supervising and inspecting** the building works to ensure that the building works are being carried out in accordance with —
 - (i) the provisions of this Act;
 - (ii) subject to section 14, the building regulations;
 - (iii) the relevant plans approved by the Commissioner of Building Control; and
 - (iv) any terms and conditions imposed by the Commissioner of Building Control;

9(3C) Duties of qualified persons

Every qualified person appointed under section 6(3)(b) to supervise the building works shall —

(b) in the **absence of a site supervisor**, take all reasonable steps and exercise due diligence in giving **immediate supervision** to the carrying out of **concreting, piling, pre-stressing, tightening of high-friction grip bolts or other critical structural works** of any building works to which section 8(1)(c) applies to ensure that such critical structural works of the building works are being carried out in accordance with —

- (i) the provisions of this Act;
- (ii) subject to section 14, the building regulations;
- (iii) the plans approved in respect thereof by the Commissioner of Building Control; and
- (iv) any terms and conditions imposed by the Commissioner of Building Control;

9(3C) Duties of qualified persons

Every qualified person appointed under section 6(3)(b) to supervise the building works shall —

(c) **notify** the Commissioner of Building Control **of any contravention** of the provisions of this Act or the building regulations in connection with those building works;

(d) **keep and maintain** at the premises on which building works are carried out such **documents, books and records** as may be prescribed in the building regulations;

(e) **submit** to the Commissioner of Building Control at the prescribed times such **reports and certificates** as may be prescribed in the building regulations; and

(f) **notify** the Commissioner of Building Control if the building works have been **suspended for a period of more than 3 months**.

Penal liabilities for breach

9(4) Any person who contravenes or fails to comply with subsection (3C) (a) or (b) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$50,000 or to imprisonment for a term not exceeding 12 months or to both and, in the case of a continuing offence, to a further fine not exceeding \$1,000 for every day during which the offence continues after conviction.

9(5) Any qualified person who contravenes or fails to comply with subsection (3) (b) or (3C) (c), (d) or (e) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$10,000 or to imprisonment for a term not exceeding 6 months or to both and, in the case of a continuing offence, to a further fine not exceeding \$500 for every day during which the offence continues after conviction.

Penal liabilities for breach

9(5A) Any person who contravenes or fails to comply with subsection (1) (b), (3) (a), (3A) (b) (i) or (ii) or (3B) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$100,000 or to imprisonment for a term not exceeding 12 months or to both and, in the case of a continuing offence, to a further fine not exceeding \$1,000 for every day during which the offence continues after conviction.

9(7) Any qualified person or person for whom any building works are or are to be carried out or the builder, as the case may be, who, without reasonable excuse, contravenes or fails to comply with subsection (1) (a), (2), (3) (c) or (3C) (f) shall be guilty of an offence.

Possible defence

9(6) It shall be a defence in any prosecution for a contravention or non-compliance with subsection (3) (b) or (3C) (c) for the person charged to prove to the satisfaction of the court that he did not know nor could reasonably have discovered the contravention or non-compliance referred to in the charge.

Main duties imposed under the Building Control Legislations

The QP :

- To prepare plans for the building works [s 6(3)]
- To supervise the building works [s 6(3)]
- To appoint site supervisors [s 10(1)]

10. Appointment and duties of site supervisors

(1) Where the **structural elements** of any building works are required by section 8 (1) (b) to be carried out under the full-time supervision of a site supervisor, the appropriate qualified person appointed under section 6 (3) (b) to supervise the building works shall **appoint not less than one site supervisor in respect of the structural elements of those building works.**

(2) Where the **critical structural works** of any building works are required by section 8 (1) (c) to be carried out under the immediate supervision of an appropriate qualified person or a site supervisor, the appropriate qualified person appointed under section 6 (3) (b) to supervise the building works may **appoint one or more site supervisors in respect of the critical structural works of those building works.**

10. Appointment and duties of site supervisors

(4) If a **site supervisor** appointed in respect of any building works **becomes unwilling or unable**, whether by reason of the termination of his appointment or for any other reason, **to carry out his duties** under subsection (5) —

...

(b) the **qualified person** appointed under section 6 (3) *(b)* to supervise the building works shall —

(i) **appoint another site supervisor** in his place; and

(ii) **notify** the Commissioner of Building Control **of such appointment within 7 days** thereof.

Penal liabilities for breach

(7) Any ... qualified person who, without reasonable excuse, contravenes or fails to comply with subsection ... (4) *(a)* *(b)* (ii), respectively, **shall be guilty of an offence.**

47. General penalty

Any person who is guilty of an offence under this Act for which no penalty is expressly provided shall be liable on conviction to a fine not exceeding \$5,000 or to imprisonment for a term not exceeding 3 months or to both.

48(1) Composition of offences

The Commissioner of Building Control may, in his discretion, compound any offence under this Act or the building regulations which is prescribed as a compoundable offence by collecting from a person reasonably suspected of having committed the offence a sum not exceeding \$2,000.

Main duties imposed under the Building Control Legislations

The QP :

- To carry out or cause to be carried out such tests as may be prescribed or required by the Commissioner of Building Control [s 12(1)]

12 Tests of or in connection with building works

(1) Subject to subsection (3), the qualified person appointed under section 6 (3) in respect of the **structural elements** of any building works shall **carry out or cause to be carried out such tests** of or in connection with the building works as may be prescribed or required by the Commissioner of Building Control.

Penal liabilities for breach

(6) Without prejudice to the right of the Commissioner of Building Control to exercise his power under subsection (5), any qualified person who fails to comply with any requirement under subsection (1) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$50,000 or to imprisonment for a term not exceeding 12 months or to both and, in the case of a continuing offence, to a further fine not exceeding \$1,000 for every day during which the offence continues after conviction.

Main duties imposed under the Building Control Legislations

The QP :

- To carry out or cause to be carried out such tests as may be prescribed or required by the Commissioner of Building Control [s 12(1)]
- To notify Commissioner of Building Control of QP's ceasing to carry out his duties [s 12(1)]

9(1) Duties of qualified persons

If any qualified person appointed under section 6 (3) **becomes unwilling or unable**, whether by reason of the termination of his appointment or for any other reason, **to carry out his duties** under this Act —

(a) the qualified person shall, **within 14 days of his ceasing to carry out his duties**, notify the Commissioner of Building Control and the builder of the building works of that fact; and ...

Penal liabilities for breach

9(7) Any qualified person or person for whom any building works are or are to be carried out or the builder, as the case may be, who, without reasonable excuse, contravenes or fails to comply with subsection (1) (a), (2), (3) (c) or (3C) (f) shall be **guilty of an offence**.

Main duties imposed under the Building Control Legislations

The QP :

- Not to permit or authorise the deviation of building works in any material way from the approved plans [s 19(2)]

19 Building Offences

(2) Any person for whom any building works are carried out and any qualified person, site supervisor or builder directly concerned with the building works who, in carrying out the building works **deviates, or permits or authorises the building works to deviate, in any material way from any plans of the building works approved** by the Commissioner of Building Control under this Part shall each be guilty of an offence and shall be liable on conviction to a fine not exceeding \$50,000 or to imprisonment for a term not exceeding 12 months or to both.

Main duties imposed under the Building Control Legislations

The AC:

- To check that the detailed structural plans and design calculations of the building works are in accordance with the building regulations and to carry out such other duties as may be prescribed by the regulations [s 17(3)]
- Building Control (Accredited Checkers and Accredited Checking Organisations) Regulations 2002

Main duties imposed under the WHSA

Duties of persons at work

15(2) No person at work shall wilfully or recklessly interfere with or misuse any **appliance, protective clothing, convenience, equipment or other means or thing provided** (whether for his use alone or for use by him in common with others) pursuant to any requirement under this Act for securing the safety, health or welfare of persons (including himself) at work.

(3) Any person at work who, without reasonable cause, wilfully or recklessly does any act which **endangers the safety or health of himself or others** shall be guilty of an offence.

Penal liabilities for breach

15(4) Any person who contravenes subsection ... (2) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$1,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$2,000.

Penal liabilities for breach

50. General penalties

Any person guilty of an offence under this Act (but not including the regulations) for which no penalty is expressly provided by this Act shall be liable on conviction —

(a) in the case of a **natural person**, to a fine not exceeding \$200,000 or to imprisonment for a term not exceeding 2 years or to both; and

(b) in the case of a **body corporate**, to a fine not exceeding \$500,000,

Penal liabilities for breach

50. General penalties

... and, if the contravention in respect of which he was so convicted continues after the conviction, he shall (subject to section 52) be guilty of a further offence and shall be liable to a fine —

(i) in the case of a natural person, not exceeding \$2,000 for every day or part thereof during which the offence continues after conviction; or

(ii) in the case of a body corporate, not exceeding \$5,000 for every day or part thereof during which the offence continues after conviction.

Main duties imposed under the WHSA

Duties of manufacturers and suppliers of machinery, equipment or hazardous substances used at work

16(5) Where **a person designs**, manufactures or supplies any machinery, equipment or hazardous substance for use at work and does so for or to another on the basis of a written undertaking by that other to take specified steps sufficient to ensure, so far as is reasonably practicable, that the machinery, equipment or hazardous substance will be safe and without risk to health when properly used, the undertaking shall have the effect of relieving the first-mentioned person from the duty imposed by subsection (1)(b) to such extent as is reasonable having regard to the terms of the undertaking.

Main duties imposed under the WHSA

Duties of manufacturers and suppliers of machinery, equipment or hazardous substances used at work

16(1) Subject to this section, it shall be the duty of any person who manufactures or supplies any machinery, equipment or hazardous substance for use at work to ensure, so far as is reasonably practicable —

...

(b) that the machinery, equipment or hazardous substance is safe, and without risk to health, when properly used;

...

Limitation of action

- Limitation Act (Cap 163)
- Generally, all claims for breach of contract, negligence and nuisance must be brought within 6 years from the date on which the cause of action accrued [s 6(1)]

Limitation of action

- When does a cause of action accrue ?
 - ✓ Contract – date of breach
 - ✓ Tort - date of damage (c.f. date of discovery of damage)

Limitation of action

- Limitation period extended in the event of latent damage
- action must be brought within 3 years from the earliest date on which the plaintiff had both the knowledge required for bringing an action for damages in respect of the relevant damage and a right to bring such an action [s 24A(3)]

The knowledge required for bringing an action for damages in respect of the relevant damage means knowledge [24A(4)] :

- That the injury or damage was attributable in whole or in part to the act or omission which is alleged to constitute negligence, nuisance or breach of duty
- Of the identity of the defendant
- If it is alleged that the act or omission was that of a person other than the defendant, of the identity of that person and the additional facts supporting the bringing of an action against the defendant

The knowledge required for bringing an action for damages in respect of the relevant damage means knowledge [24A(4)] :

- Of material facts about the damage which would lead a reasonable person who had suffered such damage to consider it sufficiently serious to justify his instituting proceedings for damages against a defendant who did not dispute liability and was able to satisfy a judgment

- But, knowledge that any act or omission did or did not, as a matter of law, involve negligence, nuisance or breach of duty is irrelevant [s 24A(5)]

A person's knowledge includes knowledge which he might reasonably have been expected to acquire relevant damage means knowledge [s24A(6)]:

- From facts observable or ascertainable by him, or
- From facts ascertainable by him with the help of appropriate expert advice which it is reasonable for him to seek

- But, a person shall not be taken to have knowledge of a fact ascertainable only with the help of expert advice so long as he has taken all reasonable steps to obtain (and, where appropriate, to act on) that advice [s 24A(7)]

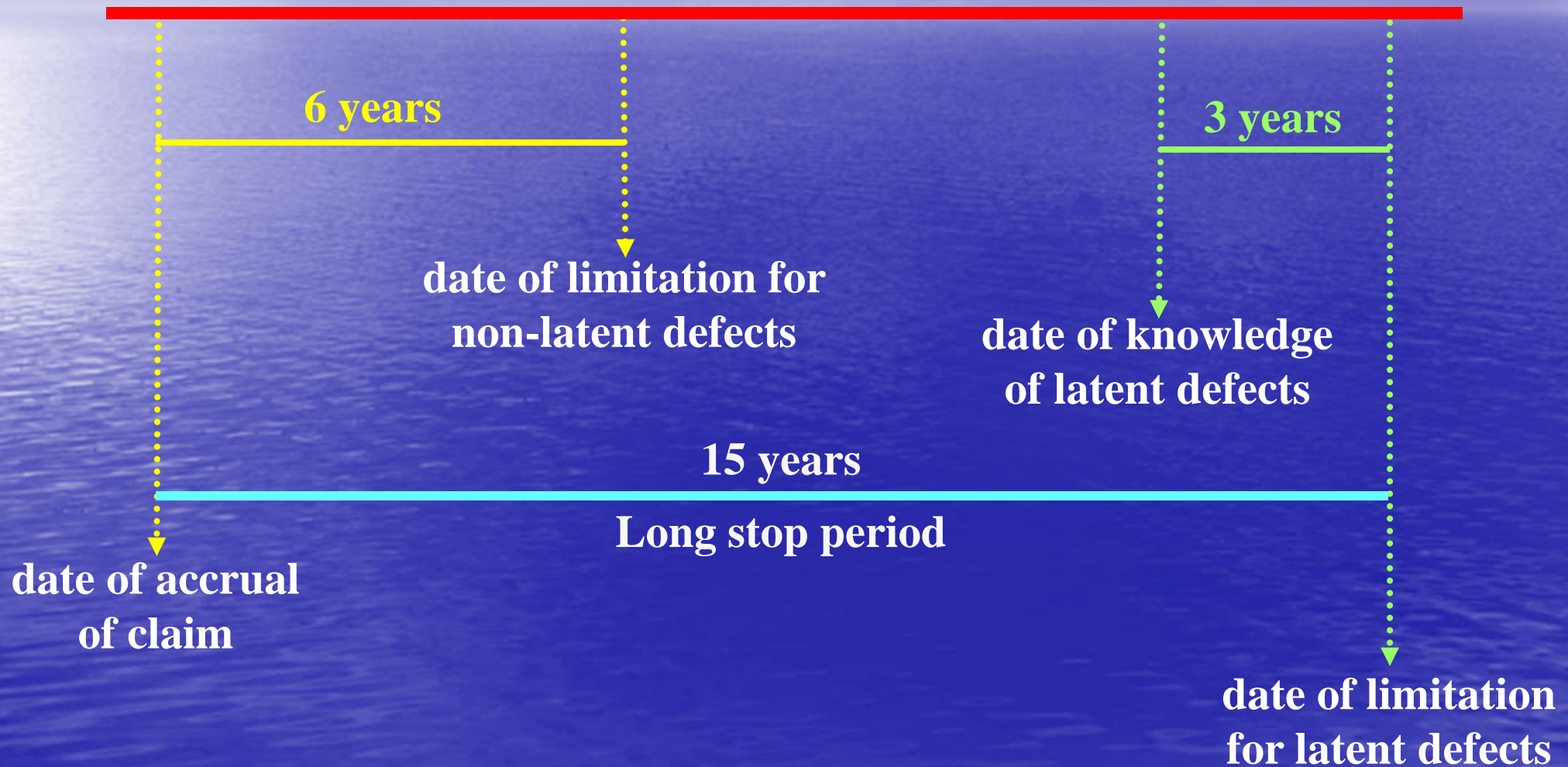
Limitation of action

- **NOTE - The extended limitation period of 3 years is, however, subject to the long stop of 15 years from the starting date [s 24B(1)]**

"starting date" means the date on which there occurred any act or omission [s 24B(2)] :

- Which is alleged to constitute negligence, nuisance or breach of duty, and
- to which the damage in respect of which damages are claimed is alleged to be attributable (in whole or in part)

Limitation of action



THE END

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Member, Singapore International Arbitration Centre (since May 2003)
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Major Publications (author or co-author):

"The Singapore Court Forms"
"The Singapore Standard Form of Building Contract – An Annotation"
"Construction Defects: Your Rights and Remedies" title of the Sweet & Maxwell's Law for Layman Series
Singapore Civil Procedure 2003 (White Book)
Real Estate Developers' Association of Singapore's (REDAS) Design and Build Standard form contract