



EXPERTSDIRECT

Re: Anti-Dumping Commission Investigation No. 548 - Certain kraft paperboard exported to Australia from the United States of America

Expert Report of:

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22 December 2020

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Codes of Conduct:

Guideline - Persons Giving Independent Expert Opinion
Expert Evidence Practice Note (GPN-EXPT)
Harmonised Expert Witness Code of Conduct
Concurrent Expert Evidence Guidelines



1. Introduction

- 1.1 I, Dr Nafty Vanderhoek, am a papermaking technologist offering consultancy services in the field of paper science.
- 1.2 I have been instructed by the Anti-Dumping Commission to provide my expert opinion regarding an anti-dumping case under review involving a form of fibre packaging for beverage applications.

2. Documentation Provided by the Instructing Solicitors

- 2.1 I have been instructed with the documents listed in the letter of instruction annexed to this report at **Appendix 2**.

3. Field of Specialised Knowledge

- 3.1 I am a papermaking technologist offering consultancy services in the field of paper science.
- 3.2 I hold the degrees of Bachelor of Science (Hons) and Doctor of Philosophy (Inorganic Chemistry) from the University of Adelaide.
- 3.3 I have been engaged in pulp, paper and paperboard research and related activities for over 46 years achieved in three separate careers:
 - (a) 28 years in private enterprise with APM/Amcors Limited (1974 to 2001);
 - (b) 9 years in the public service with CSIRO (2001 to 2010); and
 - (c) 9 years as a self-employed consultant (2011 to present).
- 3.4 I am a member of the Australasian Pulp and Paper Industry Technical Association (**Appita**) and serve on the Appita Technical Committee, including a period of 10 years as Chairman, and on the editorial team of the Appita magazine.
- 3.5 I am the recipient of the Oertel Nadebaum Medal, one of two major awards presented by Appita for distinguished contributions to the Australian pulp, paper, packaging and bio-products industry.
- 3.6 I am an Appita Fellow, awarded to individuals who have made a substantial contribution to the Australasian pulp, paper, packaging and bio-products industry.
- 3.7 I have undertaken many consultancies, largely in Australia, relating to the pulp, paper and paperboard technologies.
- 3.8 I am the author or co-author of many published articles relating to aspects of paper, paperboard and wood science and technology.
- 3.9 My knowledge of pulp, paper, paperboard, packaging and bio-product technology has been derived from active research in the field over many years, from attendance at Australian and international conferences, from reading of books and journals pertaining to the pulp, paper, packaging and bio-products industry, from many visits to



paperboard mills and converting operations in Australia and overseas, and discussions with colleagues in research and pulp and paper companies both here and abroad.

- 3.10 Areas of my personal research include paper machine chemistry, on-machine and off-machine processes, process and product optimisation, management of problem-solving groups, environmental audits and technical education. I have significant experience in paper and paperboard testing, pulping of fibres, paper machine operations, coating, wet-end chemistry, alkaline conversion, retention, sizing, filler usage, development projects, trial executions, and R&D management.
- 3.11 The contents of this report are based on my own knowledge and experience in Australia in the field of pulp, paper and paperboard technology.
- 3.12 My full curriculum vitae is annexed to this report at **Appendix 1**.

4. Expert Witness Code of Conduct

- 4.1 In presenting this report, I acknowledge a duty to give impartial assistance to the Anti-Dumping Commission. No matters of significance have been withheld from the Anti-Dumping Commission and I agree to comply with the *Expert Witness Code of Conduct and Guideline – Persons Giving Independent Expert Opinion*. Additionally, I certify that I have read the Expert Witness Code of Conduct and agree to be bound by the code. I confirm that I have prepared this report to the best of my ability in accordance with the code.

5. Background & Assumptions

- 5.1 I have been instructed to assume the factual background set out in the letter of instruction annexed to this report at **Appendix 2**.
- 5.2 I have made enquiries which I believe to be desirable and appropriate to matters set out in this report, and no matters of significance which I regard as relevant have, to my knowledge, been omitted from it.
- 5.3 In September 2020 I was contacted and asked whether I would be available to provide my views as an independent consultant in a dispute on a paper industry matter.
- 5.4 At a later stage I learnt the Anti-Dumping Commission (**ADC**) was carrying out an investigation following an application received from an Australian corporation manufacturing a form of fibre packaging for beverage applications known as Microflute.^{1, 2}
- 5.5 Later again, I was advised that the interested parties were invited to make submissions about whether or not Microflute manufactured by Visy Glama is a like good in relation to kraft paperboard.³

¹ Email BC to NV, dated 1 September 2020.

² Email BC to NV, dated 15 September 2020.

³ https://www.industry.gov.au/sites/default/files/adc/public-record/548_019_issues_paper_adc_like_goods_with_respect_to_the_guc.pdf

- 5.6 Specifically, I have been requested to consider the following three questions:⁴
- (a) Is Microflute an identical product with kraft paperboard?
 - (b) If not, set out whether or not Microflute and kraft paperboard have characteristics closely resembling one another by giving consideration to physical likeness, commercial likeness, functional likeness, production likeness or any other consideration as set out within Chapter 2.3, Anti-Dumping Commission's Dumping and Subsidy Manual (November 2018).
 - (c) In addition to Microflute, do any other products closely resemble kraft paperboard and, if yes, are they manufactured in Australia and by whom?
- 5.7 As a paper/paperboard technologist, I'm only qualified to comment on the basis of the of the materials I was given through the Anti-Dumping Commissions Electronic Public Register on technical aspects about Microflute and kraft paperboard.
- 5.8 In considering the questions raised and to assist in subsequent explanations, it is appropriate to acquaint the reader with some basic steps in pulp, paperboard, and packaging manufacture, including recognised testing protocols, as these are relevant to the matter at hand.⁵

Background – Pulp

- 5.9 The basic raw material for pulp production is predominantly woody biomass, split into softwoods (e.g. pine, spruce, fir) and hardwoods (e.g. eucalypt, birch, poplar). The use of non-woods such as agricultural residues (e.g. bagasse, cereal straw) or plants and crops (e.g. bamboo, hemp, kenaf) occurs but is much less common.
- 5.10 The wood features of softwoods and hardwoods are vastly different.⁶ Softwoods have densities typically in the range 320 to 480 kilogram per metre cubed (kg/m^3) and fibre lengths of the order of 3 to 4 millimetres (mm), while the corresponding values for hardwoods are 400 to 850 kg/m^3 and 1 to 2 mm respectively. As a consequence of this fact, paper made from softwood and hardwood fibres exhibit properties that are measurably different.
- 5.11 As a result of their fibre length difference, softwoods and hardwoods are also known as long fibres and short fibres respectively. As a general rule, long fibre pulps are stronger than short fibre pulps as judged by conventional strength properties.
- 5.12 The main chemical constituents of wood, and indeed non-woods, are cellulose, hemicellulose, lignin and extractives.⁷ All contain the same chemical constituents, but in differing relative amounts.
- 5.13 Cellulose determines the character of the fibre and permits its use in paper making. Cellulose is a carbohydrate and polysaccharide, meaning that it contains many sugar

⁴ Briefing document entitled Request for Quote from Independent Subject Matter Expert, dated 9 October 2020.

⁵ The background paragraphs that follow (4.09 to 4.110) apply to both Kraft paperboard and Microflute.

⁶ Handbook for Pulp & Paper Technologists, G.A. Smook, p 15.

⁷ Principles of Wood Science and Technology, W.A. Cote, p 55-78.



units composed of carbon, hydrogen, and oxygen that exist as linear chains held tightly together by hydrogen bonding.⁸

- 5.14 Lignin is a complex cross-linked polymer or “cementing” material that holds the fibres together in wood and its removal is necessary for the isolation of strong fibres.
- 5.15 The woody biomass of choice for processing, whether softwood or hardwood, depends on local availability and varies from continent to continent.
- 5.16 It follows from paragraph 5.15 that countries rich in softwood forest resources are in the fortunate position of a steady supply of high-quality fibre that provide them with a competitive advantage over countries not similarly blessed in applications where strength is regarded as the prime requirement.
- 5.17 Countries like Australia that are less endowed with softwood forest resources must pursue other avenues such as supplementing virgin fibre with selected waste paper in a manner that optimises the favourable characteristics of each.
- 5.18 The conversion of woody biomass into a form suitable for papermaking is a process known as pulping,⁹ and can be achieved in one of three ways:
 - (a) Mechanical pulping that uses predominantly mechanical energy to liberate the fibres;
 - (b) Chemical pulping that uses chemicals to selectively remove lignin in order to separate the fibres; or
 - (c) Semichemical pulping that uses a combination of mechanical and chemical energy; that is chemicals to partially soften the fibres followed by mechanical energy to achieve liberation.
- 5.19 Pulps generated by the methods described in paragraph 5.18 differ in their attributes:
 - (a) Mechanicals pulps are high in yield (88-95 percent [%] by weight) but low in quality and are used typically in newsprint where strength is relatively unimportant;
 - (b) Chemical pulps are at the other extreme and characterised by low yield (45-55% by weight) and high quality, and find application in products such as wrappings where strong pulps are desired; and
 - (c) Semichemical pulps are intermediate in yield (65-85% by weight) and quality, and are often used as the “sandwich” component in corrugated boxes.
- 5.20 The most common mechanical pulping process, both domestically and internationally, is thermo-mechanical pulping (**TMP**), which in process uses a combination of temperature (steam) and pressure.

⁸ A chemical bond in which a hydrogen atom in one molecule is attracted to an electronegative oxygen atom in another molecule.

⁹ https://www.pita.org.uk/images/PDF/Glossary_of_Terms.pdf.



- 5.21 The most common semichemical pulping process, both domestically and internationally, is the neutral sulphite semichemical pulping (**NSSC**), which uses sodium sulphite (Na_2SO_3) in combination with an alkaline buffer, either sodium carbonate (Na_2CO_3) or sodium bicarbonate (NaHCO_3) as the chemical component of the process.
- 5.22 The most common chemical pulping process, both domestically and internationally, is the kraft process which uses a combination of caustic soda (NaOH) and sodium sulphide (Na_2S) as the cooking chemicals, temperatures in the range of 160 to 175 degree Centigrade ($^{\circ}\text{C}$) and a cooking duration of between 90 and 180 minutes (min).
- 5.23 The term “kraft” comes from the German word meaning strong.¹⁰ The process was invented in 1879 and over time has become the most dominant chemical pulping process by far.
- 5.24 The reason why the kraft process has become so prevalent is due to its flexibility (can pulp virtually anything), its ease for control (batchwise or continuously), its allowance for relatively simple chemical recovery and for the high strength of the pulps achieved.

Background – Recycled fibre

- 5.25 Pulp produced by separation of the cellulose fibres from woody biomass or fibre crops as described in paragraph 5.18 is known as virgin pulp. They are so described as they do not contain any recycled content.
- 5.26 Pulp can also be derived from recovered waste paper that is collectively known as recycled fibre.
- 5.27 There are many different grades of wastepaper including, but not limited to, Mixed office waste (**MOW**), Old corrugated containers (**OCC**), Old newspapers (**ONP**), Old magazine papers (**OMP**), and Household commons.
- 5.28 There is a hierarchy of waste paper when it comes to quality. Some types of waste simply do not have the strengths required for certain applications. Papers derived largely from mechanical pulps, newspapers, magazines, and household waste fall in this category and their use in applications requiring high strength is often limited or even discouraged. When recycled fibre is utilised for packaging applications, OCC is the waste fibre of choice due to its higher content of virgin long-fibre pulp.
- 5.29 Recycled fibres must be processed prior to their use in paper making. The common processing steps are slushing, cleaning, screening and, in some cases, deinking when brighter, lighter pulps are desired. Pulp yield after processing is in the range 60 to 90% by weight and such pulps are weaker than their corresponding virgin counter-parts.
- 5.30 Pulp that has been through all four processing steps as described in paragraph 5.29 is commonly referred to as deinked pulp (**DIP**).
- 5.31 Recycled fibre can be further categorised into pre-consumer or post-consumer waste.

¹⁰ <https://projects.ncsu.edu/project/hubbepaperchem/KRFT.htm>.



- 5.32 Pre-consumer waste refers to product that is manufactured on site, found to be deficient in quality and is not sold but instead reprocessed. Post-consumer waste refers to sold product which after use is collected via the office or home recycling bin and subsequently reprocessed in the manner as described in paragraph 5.29.
- 5.33 The process of recycling paper damages fibres. With repeated processing, which takes place with each recycling, the fibres are fractured into smaller and smaller pieces that do not have the same strength as the original fibres and finally have to be discarded. This means that a constant input of virgin fibre is necessary to arrest a gradual decline in average quality levels.
- 5.34 Despite the sentiments expressed in paragraph 5.33, recycled fibres constitute an important and growing source of raw material for paperboard production and, in other than rare and exceptional circumstances, offer a cost advantage over virgin pulp. This is consistent with the concept of the circular economy that involves efficiency and recycling in production systems.

Background – Bleaching

- 5.35 At the end of the kraft pulping process, as described in paragraph 5.22, the pulp is typically light brown in colour and at this stage is commonly referred to as unbleached kraft (softwood or hardwood) pulp. The colour is a result of residual lignin still being present at a level typically 10-15% of the original amount.
- 5.36 The process of removing the remaining lignin is known as bleaching,¹¹ where selective chemicals are used to degrade the chemical moieties responsible for the residual colour.
- 5.37 Bleaching of chemical pulp is rarely carried out in a single step but in multiple stages using a variety of chemicals with intermediate washing in a manner that can vary from site to site. Additionally, and often as a pre-step, the pulping process is carried out to the fullest extent possible without causing excessive fibre degradation in a process known as extended delignification.
- 5.38 Commonly used bleaching chemicals include:
- (a) Oxygen (O_2 , but designated by the letter O by the industry for simplicity);
 - (b) Ozone (O_3 , but designated by the letter Z for simplicity);
 - (c) Hydrogen peroxide (H_2O_2 , but designated by the letter P for simplicity);
 - (d) Chlorine (Cl_2 , but designated by the letter C for simplicity);
 - (e) Chlorine dioxide (ClO_2 , but designated by the letter D for simplicity); and
 - (f) Caustic soda extraction ($NaOH$, but designated by the letter E for simplicity).

¹¹ <http://www.pulppapermill.com/what-is-bleaching-of-pulp/>.



- 5.39 Today's modern pulp mills, both domestically and internationally, use two possible sequences:
- (a) Totally chlorine free (**TCF**) which uses extended delignification plus O, E, Z and P, although not necessarily in that order; and
 - (b) Elemental chlorine free (**ECF**) which uses extended delignification plus O, D, E and P, although not necessarily in that order.
- 5.40 TCF and ECF have equally low environmental impact and are both Accepted Modern Technology (**AMT**).
- 5.41 At the end of the bleaching process, the pulp is visually white and then more accurately described as bleached kraft (softwood or hardwood) pulp.
- 5.42 As bleaching involves additional process steps, bleached pulps are more expensive to produce than unbleached pulps from the same wood.

Background – Pulp testing

- 5.43 It is common practice to measure pulp quality as a routine control measure.
- 5.44 Typical tests for unbleached kraft pulp are freeness and kappa number, while strength quality is usually determined from hand sheets made from the pulp and assessed for tear, burst, and tensile performance under standard conditions. These may or may not be the only parameters measured by production or technical staff at a mill.
- 5.45 Freeness¹² is a measure of precisely how rapidly water drains from a diluted fibre furnish, while kappa number¹³ is an indirect measure of residual lignin and normally determined by titration with a standard potassium permanganate (KMnO₄) solution.
- 5.46 Bleached pulps are assessed in a manner similar to that described in paragraph 5.44, but additionally may be tested for level of degradation by viscosity measurement or equivalent, and for optical properties such as, but not limited to, brightness and colour.
- 5.47 Recycled fibres are also assessed in a manner similar to that described in paragraph 5.44, but additionally may be tested for mineral impurities by measuring ash content and/or for organic contaminants, commonly referred to as “stickies”, using image analysis.¹⁴
- 5.48 The frequency and complexity of any testing program is a matter of choice and a program selected at one production facility may be quite different to that applied elsewhere. This is not to say that one program is better than any other, but a more robust testing program helps immensely when downstream issues arise.

¹² <https://research.cnr.ncsu.edu/wpsanalytical/documents/T227.PDF>.

¹³ <https://research.cnr.ncsu.edu/wpsanalytical/documents/T236.PDF>.

¹⁴ <https://www.tappi.org/content/sarg/t277.pdf>.



Background – Paperboard manufacture¹⁵

- 5.49 The basic raw material for paper (less than 200 grams per square metre [**gsm**]) or paperboard¹⁶ (greater than 200 gsm) manufacture is wood pulp, either virgin, recycled, unbleached, bleached, deinked, or in any combination.
- 5.50 In paper or paperboard making,¹⁷ a dilute suspension of fibre (the order of 1 part) in water (the order of 199 parts) is allowed to pass over a continuous wire where dewatering takes place in three stages:
- (a) Forming, where 97% of the water is removed with the aid of simple engineering devices such as, but not limited to, table rolls, foil elements and suction boxes;
 - (b) Pressing, where an additional 2% water is removed by allowing the paper to pass through a series of press nips; and
 - (c) Drying, where the final 1% of water is removed by contact of the paper with the surface of many steam or electrically heated cylinders.
- 5.51 The first commercial successful paper on machine, using the concept described in paragraph 5.50 and patented by Louis Robert in 1799, was achieved by the Fourdrinier brothers in 1804. Since that time, the paper machine which today bears the name of the inventors (Fourdrinier paper machine) has undergone continuous evolution.
- 5.52 Paperboard is typically, but not exclusively, manufactured on a Fourdrinier machine utilising two, and sometimes more, headboxes. A headbox is the device where the diluted pulp slurry is added to the paper machine in the forming process.
- 5.53 A Fourdrinier paper machine with a secondary headbox allows for options in fibre delivery. One common, but not exclusive way, is for a relatively dark and coarse high yield unbleached kraft base sheet (bottom ply or liner) to be formed from the primary headbox and a lighter, cleaner, better quality layer (top ply or liner) formed on top of the base sheet to provide a good printing surface.
- 5.54 A Fourdrinier paper machine with multiple headboxes allows for heavier weight, multiply construction consisting of a top liner, a bottom liner, and a number of middle plies. The main advantage of multiply forming lies in the ability to utilise bulky low-grade waste materials in the inner plies of the paperboard where low strength and extraneous materials have little effect on the properties of the sheet.
- 5.55 Paperboard produced as described in paragraphs 5.53 and 5.54 manifests itself as a single layer, but effectively consists of several plies (defined by the number of headboxes) and where the fibres, whether same or different, are held tightly together by hydrogen bonding.

¹⁵ Sometimes referred to as cartonboard. Indeed, the terms paperboard and cartonboard are often used interchangeably.

¹⁶ There is no rigid differentiation between paper and paperboard, but 200 gsm is the delineation accepted by the ISO standardisation body.

¹⁷ Handbook for Pulp & Paper Technologists, G.A. Smook, Chapters 16 and 17.



- 5.56 From paragraphs 5.53 to 5.55, it follows that paperboard attributes can be influenced in a controlled manner by judicious choice of pulp (type and amount) and/or in equipment (selection and design).
- 5.57 Paperboard quality can also be influenced at the paper machine wet-end by the addition of chemicals such as sizing agents (imparts water resistance) or “wet strength” additives (improves product strength in the wet state). These are not the only chemicals added in manufacture of paper or paperboard, but are two that can influence the matter under consideration.
- 5.58 Chemicals that develop or conserve the mechanical strength of paper or paperboard when wetted are known as wet strength additives, and find application in grades such as, but not limited to, sanitary tissues, currency, and packaging. The three most common wet strength additives are:
- (a) Formaldehyde-based resins (MF or UF);
 - (b) Polyamide-epichlorohydrin (PAE); and
 - (c) Glyoxal-polyacrylamide (GPAM).
- 5.59 While serving a useful purpose, products with high wet strength performance features, by their very nature, are more difficult to re-slush than their untreated counterparts and if present in the waste paper stream at elevated levels can give rise to operational challenges that can be formidable.
- 5.60 Although made continuously, paperboard is collected as “Jumbo” reels the dimensions of which will vary from machine to machine and mill to mill, but would typically be up to two metres high, many metres wide, weigh as much as 7-10 tonnes¹⁸ and retain some moisture which at equilibrium is of the order of 6 to 8% on a dry mass basis.
- 5.61 The number of “Jumbo” reels made in a day will also vary from machine to machine and mill to mill, but is typically one every 45 to 60 minutes.
- 5.62 Paperboard falls within the product category of packaging and industrial papers, one of four paper categories recognised universally by the industry. The others are newsprint, tissue, and sanitary, and printing and writing grades. While of less direct interest in the matter under consideration, fibre from these other product categories can find their way into the production chain through the wastepaper cycle as described previously.
- 5.63 Once manufactured, paperboards are subjected to additional operations such as finishing and converting. Finishing usually refers to slitting, cutting, sorting, counting, and packaging the product, while corrugating in box plants is an example of a converting process that is typically performed outside the mill where the paperboard originates.

¹⁸ This figure applies to typical Australian mills. Overseas where there are wider and larger machines, the weight of “Jumbo” reels can be double this number.



- 5.64 Many converting operations also involve printing. The main industrial printing processes are offset, lithography, flexography, screen, and digital.
- 5.65 Paperboard is manufactured in Australasia by three suppliers – Oji, Opal and Visy. While each manufacturer would follow the same general principles as described in paragraphs 5.50 to 5.61, differences will exist to an extent that would take some effort to quantify.

Background - Coating¹⁹

- 5.66 Paperboard produced as described in paragraph 5.50 is more accurately referred to as uncoated paperboard. The advancing technologies of printing and packaging have placed greater demands on the surface of the paper sheet and in order to meet these stringent requirements many paper surfaces are coated with suitable formulations to provide improved optical performance, printing detail and brilliance.
- 5.67 Paperboard coating can be applied either as an on-machine operation or off-machine as a separate process. Each approach has its advantages and disadvantages, and preference is ultimately a matter of choice. Both methods are used commercially.
- 5.68 The main components of coating formulations are pigments, binders, additives and water. Once prepared, the formulation is known collectively as a coating colour. The variety of coating formulations is staggering and it is not uncommon for coating colours to contain up to 10 ingredients or more.
- 5.69 The most common pigments are inorganic minerals such as, but not limited to, ground calcium carbonate (GCC), precipitated calcium carbonate (PCC), titanium dioxide, clay, or talc. The use of organic plastic pigments does occur but less frequently.
- 5.70 The most common binders are, but not limited to, synthetic latex (styrene butadiene [SB], polyvinyl acetate [PVA] and styrene acrylate [SA]) and starch.
- 5.71 Additives include but are not limited to thickeners, dispersants, plasticizers, and insolubilizers. These are employed to meet specific requirements of the coating equipment and product end-use.
- 5.72 Coating colours can be applied to the paperboard in a number of ways including air-knife, blade metering, applicator roll, metering size press, curtain, and spray. All these methods re-wet the paperboard and the introduced water is removed with the aid of infrared dryers, air-foil dryers, and/or cylinder driers. Drying conditions can impact the coating structure, sometimes adversely.
- 5.73 Application of the coating colour can be in one step or multiples steps; the latter when a thicker coating layer is desired.

¹⁹ Papermaking Science and Technology, Pigment coating and surface sizing of paper, Volume 11.

- 5.74 A coating will tend to fill in the void areas or hollows on the surface of the paperboard. In order to compact the coating surface and to develop a greater level of smoothness, the paperboard, once dried, is passed through a series of rollers as a final step in a process known as calendering.²⁰
- 5.75 From paragraphs 5.67 to 5.74, it is clear that the science of coating is far from simple. It requires a formidable understanding of many factors including the influence of base paperboard properties, coating colour composition, preparation and rheological behaviour, coating methods, potential water retention and drying issues, and the impact of surface treatments. This collective knowledge is highly prized and often closely guarded within a company so as to achieve a competitive advantage.
- 5.76 Paperboard produced as described in paragraphs 5.67 to 5.74 is then more accurately referred to as coated paperboard.
- 5.77 As coating involves additional process steps, coated boards are more expensive to produce than uncoated boards made from the same fibre composition.

Background – Paperboard testing

- 5.78 It is common practice for all mills to test the top of each “Jumbo” reel²¹ for paperboard properties reflective of the end-use performance and according to set specifications.
- 5.79 Typical tests for paperboards would include, but not be limited to, grammage (mass per unit area), thickness, density, tear index, tensile strength, burst index, and ring crush index. In cases where the paperboard has been coated, optical properties such as gloss, opacity, brightness, colour and shade will be included. The extent and frequency of testing will vary from site to site.
- 5.80 Product testing is normally conducted in a mill under controlled, but non-standard methods. The reason for this is time constraints as testing under standard conditions requires both pre-conditioning (usually for 24 hours in low humidity conditions) and conditioning (up to 48 hours in a room maintained at 23°C and 50% relative humidity) of the product prior to testing. In a mill environment this would be impractical so the process is shortened.
- 5.81 One reason that paperboard testing is standardised is due to a phenomenon known as “hysteresis”, which means that the moisture content of paperboard at a certain humidity of air is different in absorption when coming from dry conditions and in desorption when coming from humid conditions. The difference in moisture content can be as high as 1-2%, which will then impact on strength properties. In other words, product quality as judged by strength measurements will be different when the same product is allowed to reach equilibrium from the “dry” end or “wet” end. Common practice in paperboard testing is to approach moisture equilibrium from the “dry” end.
- 5.82 Method standardisation is equally important to ensure that the same product when tested in unrelated laboratories by different operators using similar or identical

²⁰ <https://www.britannica.com/technology/calendering>.

²¹ Refers to the large roll of paper coming off a papermachine before it is cut into smaller customer rolls.



equipment give results with a high probability of agreement within the precision of the measurements.

- 5.83 The corollary to paragraph 5.82 is that the use of non-standard methods can give rise to results that are numerically different for reasons unrelated to product quality.
- 5.84 The complex nature of the paper making process means that paperboard quality varies both within and between production runs. As a consequence, product grades are generally over engineered for their intended purpose; that is, specifications are set well above the limit where the product would be expected to fail.
- 5.85 Paperboard that meets specifications is cut into smaller customer rolls, held in storage, or despatched for further processing. Paperboard that is outside specifications is usually re-tested under standardised conditions where it either passes and is further processed or fails when it is normally re-slushed and re-used as fibre in the paper making process.
- 5.86 Paperboard that leaves the mill will have an identifier that allows the mill to easily track vital information such as where the product was made on which machine and at what time. This information is vital should any quality control issue ever eventuate.
- 5.87 Paperboard that meets specification at the time of manufacture and testing may not necessarily exhibit the same properties at the destination of the next processing step in the value chain. Factors that can impact product quality include physical damage during transport, handling, and storage.

Background – Box manufacture

- 5.88 The basic raw material for fibreboard boxes is paperboard, subdivided into linerboard (often abbreviated to liners) and corrugating medium (also known as flutings).
- 5.89 In the making of a box, a roll of corrugating medium is passed through a machine (the corrugator) which forms the flutes or corrugations. Sheets of linerboard are then glued to one or both sides of the medium. After drying, the combined board is printed, creased, slotted and cut into blanks, or other shapes of the exact size needed by the customer.
- 5.90 Most box blanks are folded to bring the end panels together, forming the “manufacturer’s join”, with adhesive, metal stitches, or tape.
- 5.91 Corrugated board is further defined by the type of corrugations or fluting; that is, their height and the number of flutes per unit length.²² These properties determine the so-called “theoretical take-up factor”, which is the ratio between the length of fluting medium before corrugation and that of the liner.
- 5.92 The corrugations or flutes can be made in a number of sizes, normally expressed as microns (μm) and usually represented by an alphabet letter as for example A (in the range 4500-4700 μm), B (2100-2900 μm), E (1100-1200 μm) etc. Microflutes are low

²² <https://www.pinterest.co.uk/pin/327073991682815344/>.



height corrugations and are expressed in a similar manner e.g. F flute (of the order of 750 μm), G flute (of the order of 550 μm) or N flute (of the order of 500 μm).

- 5.93 The corrugated fibreboard box is by far the most common form of distribution packaging. Solid boxes made entirely from paperboard do exist but are less common.
- 5.94 The manufacture of corrugated paperboard is one of the major tonnage items of the paper industry due to its relatively low cost and high strength characteristics.
- 5.95 The strength of a corrugated box starts with its material. The flute when anchored to linerboard with a starched-base adhesive or the like resists bending and pressure from all directions. When placed vertically on its ends, the flutes form vertical columns capable of supporting considerable amounts of weight.
- 5.96 The actual performance of corrugated fibreboard depends on the properties of the board used and on construction of the container. Many board styles are possible including single face, single wall, double wall, or triple wall. The many possible combinations provide a range of qualities to suit varying needs. Extra strength and protection are particularly important as the packaging size increases.
- 5.97 Printing of corrugated board has been historically the weak point in the box manufacturing process. Commonly it requires two steps:
- (a) Printing on the paperboard; and
 - (b) Laminating onto the corrugated board.
- 5.98 Being able to print directly onto the corrugated box whilst maintaining high printing and folding outcomes is highly desirable as it enables greater efficiencies in production. Certain Microflutes offer this possibility, with N-flute being the notable example.²³
- 5.99 Corrugated fibreboard boxes are normally made to a meaningful specification agreed between the box maker and box user. In addition to box style, board grade, and print details, the specification would cover dimensions, performance, and appearance.
- 5.100 Most boxes contain a marker of key information for identification purposes such as a barcode or equivalent that becomes vital in any quality control issue that may eventuate.
- 5.101 Fibreboard boxes (corrugated or solid) are available in Australia from many different suppliers. While each large manufacturer would follow the same general principles as described in paragraphs 5.89 to 5.92, differences will exist to an extent that would take a considerable effort to quantify.

Background – Box board testing

- 5.102 The tests used to gauge corrugated fibreboard performance are many and varied, and include measurements such as grammage, thickness, ring crush test, corrugated crush test, flat crush test, edge crush test, pin adhesion test, box compression test, bending stiffness or flexural rigidity, water resistance of glue bonds, shear stiffness test,

²³ <https://www.netpak.com/direct-offset-lithography-printing-on-microflute/>.



vibration test, and revolving drum test. This is not an exhaustive list but covers the main tests used to measure box quality.

5.103 The tests described in paragraph 5.102 fall into three general categories:

- (a) Tests of the individual component materials;
- (b) Test of the combined boards; and
- (c) Tests on made up boxes.

Collectively, they aim to deliver understandings on the strength of a container in two key areas, notably containability and stacking strength.

5.104 For weight bearing contents (cans, glass, jars etc.), the box is required to withstand the internal forces generated by the contents tending to jostle loose and burst open the box. The function of the box in this situation is one of containment.

5.105 For non-weight bearing contents, the box is required to withstand the weight imposed on the bottom box in a warehouse stack. Here top to bottom compression strength is the major requirement.

5.106 The number and frequency of tests conducted will vary from box plant to box plant but, as a general observation, testing of corrugated fibreboard is less rigorous than testing of paper or paperboard.

5.107 Method standardisation applies equally to fibreboard box testing as it does for paperboard i.e. the factors outlined in paragraphs 5.80 to 5.82 are equally important and failure to follow them can lead to results that can be misleading.

5.108 More recently, methods have become available that take into account the duration of load and humidity changes that are part of the service environment. Under extended duration of load, the linerboard and corrugating medium components undergo progressive creep deformation, and ultimate strength decreases. As relative humidity increases, unprotected board undergoes hygroexpansion and both strength and stiffness are reduced.

5.109 Additionally, more rapid assessment of scenarios and outcomes has been made possible by advanced computer modelling programs such as, but not limited to, finite element analysis (FEA), that predict product performance and allow for more informed decision making. These are an aid to, and not replacement for, field trials that must ultimately be conducted to confirm market performance.

5.110 The corrugated fibre box that meets specification at the time of manufacture and testing may not necessarily exhibit the same properties at the destination of the next processing step in the value chain. Factors that can impact product quality include physical damage during transport, handling and storage or rough handling of the box by staff or customers in the retail store.



6. Opinion

- 6.1 Based on the information summarised in this report and using my own direct knowledge of the pulp, paper, and packaging industries, I have formed the following opinions.
- 6.2 The journey from wood to pulp, to paperboard, and then to boxes is long and arduous, and involves many aspects of science and engineering.
- 6.3 The industry applies many checks and balances to ensure product quality meets stakeholder needs at all stages of the value chain and only product that meets specification progresses to the next phase of manufacture.
- 6.4 Product testing has a key role to play and attention to detail is particularly helpful, and even critical, when it comes to issues related to process control, trouble shooting, customer complaint, product development, and performance comparison.
- 6.5 Any product can be marketed successfully, provided it is technically feasible, commercially viable, and fully meets the expectations of customers for its intended purpose. I am qualified to comment only on the criteria of technical feasibility and customer expectations. Although equally important, commercial viability (and hence cost effectiveness) necessitates access to production and marketing data, often highly sensitive, that have not been made available to me.

1. Is Microflute an identical product with kraft paperboard?

- 6.6 Microflute is not an identical product with kraft paperboard; however in the context of the matter under consideration and in my opinion, the critical question from a scientific viewpoint is not whether kraft paperboard and Microflute are identical products (they are both similar and different depending on the measure chosen for comparison or if one takes a narrow or broader perspective), but whether each can be converted into 12+ beverage can multipacks (the intended purpose) and perform according to agreed specifications (standard scientific practice) or to the complete satisfaction of the customer in the instance where there are no agreed specifications (non-scientific assessment).

2. If you do not consider Microflute to be an identical product with kraft paperboard, set out whether or not they have characteristics that closely resemble one another.

When answering this question, we ask that you give consideration to physical likeness, commercial likeness, functional likeness, production likeness any other consideration which are set out within Chapter 2.3 of the Anti-Dumping Commission's Dumping and Subsidy Manual (November 2018).

- 6.7 For packaging, customer expectations encompass the basic functions of protection, containment, convenience, information, and promotion. Technology allows these expectations to be met in multiple ways through a combination of fibre selection, processing methods, equipment choice, construction preferences, and print options as described in the body of this report. As a consequence, function performance as

described above is most sensibly compared at the final product stage; that is, the finished box.

- 6.8 The functions listed in paragraph 6.7 are qualitative descriptors and accepted scientific practice is to replace these, whenever and wherever possible, with quantitative measures that are reflected in product grade specifications. Failure to do so means performance is judged subjectively and what may be acceptable to one party may be unacceptable to another.
- 6.9 From a reading of the documents provided in the Electronic Public Register, the question of final product specifications, as mentioned in paragraph 6.8, is barely addressed by either party in any meaningful way. From a technical viewpoint, I consider this as an unfortunate and a regrettable omission.
- 6.10 Product specification for kraft paperboard marketed as CarrierKote® is provided,²⁴ but this is for a component item and not the finished product. In reviewing the table on grade availability and critical properties for this product, it is interesting to note that standard methods have been quoted for all properties other than for wet strength. Why this is so is not immediately obvious as a standard method exists for this property.²⁵
- 6.11 As described in the body of the report, for strength attributes virgin pulp is preferred over recycled fibre, as is long-fibre pulp over short-fibre²⁶. Notwithstanding this, product of the same size and strength can be realised from the same pulp type, but the one made from recycled fibre²⁷ will necessarily be heavier (and thicker) than if made from the corresponding virgin pulp.
- 6.12 As described in the body of the report, the strength deficit of lower quality fibres can be overcome, fully or in part, by taking advantage of sandwich structures (or “I-Beam” effect) where two or more individual components are combined to form a high-performance material, a concept widely used in the aerospace industry²⁸ and achieved by the packaging sector through the corrugating process.
- 6.13 As described in the body of the report, the process of coating achieves a superior print impact²⁹, but it is equally true that a white surface for enhanced print contrast is possible by the selective and controlled distribution of bleached or deinked pulp, something readily accomplished with today’s modern multiply board formers.
- 6.14 While strictly not applicable here, the bleached/deinked pulp example given in paragraph 6.13 is included to support the submitted argument that a desired attribute, in this case improved whiteness, can be attained in more ways than one. However, this is not an attractive option for packaged products from the viewpoint of information and promotion as print impact on an uncoated surface is markedly inferior.
- 6.15 Further to paragraph 6.13, print attributes can be influenced by other factors such as the nature of the substrate, type of coating, the thickness of the coating, the quality of

²⁴ Document 548_002, p 36.

²⁵ <https://ipstesting.com/find-a-test/tappi-test-methods/tappi-t-456-wet-tensile-strength/>.

²⁶ <http://www.paperpulpingmachine.com/softwood-pulp-and-hardwood-pulp-comparison/>

²⁷ Recycled fibre that is predominantly old corrugated containers as explained in paragraph 4.28.

²⁸ Commonly in the form of metal or composite facings on a honeycomb core.

²⁹ https://www.tgiconnect.com/file_download/c58db3be-c031-4215-aaaa-3acd4f331b96



printing machine and ink selection. So again, technology allows for multiple choices with performance only logically and sensibly compared at the final box stage; that is, after completion of all processing steps and not at any intermediate point, particularly where these intermediate points may differ.

- 6.16 From an understanding of the concepts described in paragraphs 6.7 and 6.11 to 6.15, it follows that fibreboard boxes in solid or corrugated style can be produced in a range of different sizes, thickness, optical appearance, and load capacities to set specifications at an acceptable, though not necessarily the most desirable, level of performance.
- 6.17 It needs to be emphasised that the words 'acceptable' and 'desirable', while good general descriptors, are scientifically meaningless unless associated with end product specifications, preferably agreed to by the box maker and box user, that are relevant, measurable, and have assigned limits determined by standard procedures. Only if agreed specifications are fully met can a product be considered as fit-for-purpose.
- 6.18 For the application under consideration and to those skilled in the art, 12+ beverage can multipacks infers a fibreboard box (solid or corrugated) for weight bearing contents where containment, and not stacking, is the prime requirement.
- 6.19 For the application under consideration and to those skilled in the art, the term kraft paperboard infers a solid box derived from a sheet of heavy-duty paper made from virgin chemical pulp, ideally from softwoods with the longest fibres.
- 6.20 For the application under consideration and to those skilled in the art, Microflute infers a lightweight and durable corrugated fibreboard box comprising of three layers: two flat pieces sandwiched around a middle, wavy layer utilising both virgin and recycled fibre.

3. In addition to microflute, do you consider there to be other products which closely resemble kraft paperboard? If yes, specify these products and to the best of your knowledge outline whether they are manufactured in Australia, and by whom.

- 6.21 There is no other fibrous product closely resembling kraft paperboard, other than microflute, able to meet the 12+ beverage can multipack performance requirements in their entirety.



7. Conclusion

7.1 Finally, taking into account all the factors detailed in this report, in the absence of meaningful specifications for box performance and based on the definition outlined under section 269T (1) of the *Customs Act 1901* (Cth), it is my professional opinion in relation to the specific questions listed in paragraph 5.6 that:

- (a) Microflute and kraft paperboard are both similar and different products depending on the measure chosen for comparison;
- (b) Microflute is a “like good” alternative for kraft paperboard for physical, functional, and production factors where these materials are used in 12+ beverage can multipack applications; and
- (c) There is no other fibrous product closely resembling kraft paperboard, other than microflute, able to meet the 12+ beverage can multipack performance requirements in their entirety.

Yours Faithfully,

Dr Nafty Vanderhoek



Appendix 1 Curriculum Vitae of Dr Nafty Vanderhoek



Curriculum Vitae of Nafty Vanderhoek

Paper Industry Expert (BSc (Hons); Ph.D.)

NAME: Nafty Vanderhoek

Summary

Over 40 years experience in two large corporations; one encompassing all technical facets of a substantial manufacturing operation and the other an important research organization. Strong understanding of commercial R&D processes. Strong record of creation and development of innovation, both products and processes. Proven ability to progress R&D concepts and projects to commercialisation stage. Succeeded in both line management and staff roles.

Fields of Expertise:

- Pulp & Paper Industry
- Papermachine Chemistry
- On-machine and Off-machine Processes
- Process & Product Optimisation
- Management of Problem Solving Groups
- Environmental Audits and Technical Education.

Significant experience in Pulping of Fibres, Papermachine, Coating, Wetend Chemistry, Alkaline Conversion, Retention, Sizing, Filler Usage, Development, Trial Executions, Effluent and R&D Management.

Qualifications

University of Adelaide
Doctor of Philosophy (Ph.D.), Reaction Kinetics · (1971 - 1974)

University of Adelaide
Bachelor of Science (BSc) · (1966 - 1969)

University of Adelaide
Bachelor of Science with Honours, Physical and Inorganic Chemistry · (1970)

Memberships

Member of the Pulp and Paper Industry Strategy Group and Pulp and Paper Industry Innovation Council reporting to Senator Kim Carr



Work History

Self-employed

Consultant

November 2010 - Present (9 years 11 months)

Knowledge offering to pulp and paper, packaging, sugar, biomass utilization and other industries as a technical expert

- Acted as a senior advisor to a major overseas research organisation in their efforts to establish a more meaningful presence in Australasia
- Provided strategic and technical advice to a sugar company on the suitability of their novel technology for a pulp and paper application
- Part of a small group asked to review the risk profile of product water quality from the Gippsland Water Factory for selected industrial use
- Provided research consulting services on a pine/NSSC-AQ study
- Provided specialist services for analysis of starch distribution in paperboard

CSIRO, Division Materials Science and Engineering

Group Leader, Advanced Biopolymers

2008 - November 2010 (2 years)

Clayton Victoria

Capability (input) responsibility in the Forest Polymers and Fibres platform and project leadership (output) responsibility in the 'Transformed Forest Industries' Theme

- Maintained strong relationship with major pulp and paper players, resulting in key co-investment projects in papermaking, packaging and printing
- Directed research projects with both a fundamental and commercial focus
- Planned and assisted in two major mill trials to assess the potential of a new barrier coating formulation with potential cost savings to the pulp and paper industry
- Investigated a novel technology with significant environmental and economic benefits which has the potential to be transformational for the paper industry
- Successfully completed science and management responsibilities in CRC Smartprint that resulted in additional income to CMSE
- Assisted in the development of capabilities new to the group in the bioproducts, conducting polymer and material science domains

Ensis (UJV between CFFP and FRI (NZ))

Commercial Manager - Ensis Papro, Australia

2004 - 2007 (3 years)

Clayton Victoria

Responsible for the management and execution of research programs and client funded projects aimed at optimising and enhancing processes and products in pulp, paper and packaging. Annual budget \$1.8million. Staff of seventeen.



- Developed key partnerships with selected clients that have led to the delivery of higher value technologies and products.
- Coordinated 15+ research projects, including team selection, financial control and ongoing reviews with a diverse range of customers with differing needs and priorities.
- Assisted with a focused research program on conventional and non-conventional surface enhancement technologies.
- Program 2 Manager, CRC Smartprint working on aspects of novel inks and coatings. Portfolio of nine projects with a mix of research and commercial outcomes.
- Member of the lead team working on strategic directions.

CSIRO, Division Forestry and Forest Products (CFFP)

Senior Principal Research Scientist

June 2001 - 2004 (3 years)

Clayton, Victoria

Planned and directed major research programs on papermaking and coating, including liaison with existing and prospective clients.

- Coordinated and conducted research on four major projects, including one on a novel security product which has shown particular promise and for which patent protection is pending. Developed linkages with major pulp and paper companies and chemical suppliers to the industry that has led to new external contracts worth over \$0.5 million.
- Obtained new clients for the M/K paper machine former, which had been underutilised since purchase in 1998.
- Assisted in the selection, installation and operation of an experimental coater and associated pulp and paper testing equipment. All items of equipment successfully commissioned within 2 weeks of receipt on site.
- Inaugural member of the CSIRO Science Forum and secretary of the sub-group looking at measurement of science excellence.

Amcors Limited

Technology Manager, Fine Papers

1998 - 2001 (3 years)

Alphington, Victoria

Managed the delivery of targeted technical solutions, specifically for product development, process improvement and customer queries. Annual budget of \$3.6 million. Staff of eight.

- Coordinated 30+ research projects, including team selection, financial control and ongoing reviews. One project alone overcome major quality shortcomings in a coated paper grade to a high level of customer satisfaction and helped increase market share by 50%.
- Implemented a changed team structure and project management system that improved response times by 15% and led to greater team acceptability by the Business. Subsequently introduced by other technology groups.
- Provided strategic advice and technical assessment to senior management of APPG/PaperlinX at corporate, sales & marketing and operational levels. Recommendations regularly accepted, often in adverse situations.
- Increased group spend on paper related R&D projects by 30% over 3 years, when activities in other related areas contracted by as much as 25%.



- Demonstrated ongoing commitment to achieving agreed outcomes in full, on time and within budget.

Amcor Limited / Australian Paper Manufacturers
Senior Principle Research Scientist / Principal Research Scientist
1990 - 1997 (7 years)
Alphington, Victoria

Provided technical support to the operating units of the Company. Reviewed, developed and implemented new technologies that delivered a technical edge to the Business.

- Planned, coordinated and executed trials on 14 paper machines that collectively led to substantial cost savings (in excess of \$1 million annually through reduced grade importation).
- Initiated a technical development program for a new product, which achieved 60% market share in 18 months and new sales contributions of \$8 million.
- Conducted a series of pilot coating trials at Research Centres in USA and UK that formed part of the decision making process of the \$415 million purchase of APPM by Amcor.
- Established new monitoring procedures to optimise performance at the paper machine wet end that assisted in improving machine runnability by 1%, equating to savings of \$10+ million.
- Analysed failures and successfully solved problems related to paper/paperboard products and machine performance. One program alone eliminated a problem that was costing the manufacturing site \$0.75 million monthly.
- Led a technical improvement program on the requirements of pasted board in the Australian folder and book binding market that improved quality by 30% and led to increased sales of 400 tonnes annually.
- Regarded as the foremost technical expert on wet end chemistry in Australia.

Amcor Limited / Australia Paper Manufacturers
Manager Process Technology
1986 - 1990 (4 years)
Alphington, Victoria

Managed corporate development projects with the aim to seek new business opportunities for the Group. Project budgets up to \$0.5 million. Staff of four.

- Identified and improved deficiencies in fibre processing, environment and chemical engineering technologies that led to ongoing savings of \$0.6 million.
- Evaluated novel, end-of-pipe treatments to reduce impact of wastewater discharge on receiving waters (several found to be technically feasible, but commercially non-viable).
- Provided technical details for a feasibility study on a \$70 million MDF plant that was subsequently built.
- Prepared technical submissions as part of a project team evaluating production of oriented strand board.
- Evaluated investment opportunities for Amcor Limited in horticulture and fish oil.



Ampcor Limited / Australian Paper Manufacturers

5 years

Research Services Superintendent

1984 - 1986 (2 years)

Alphington, Victoria

Managed R&D laboratory personnel providing infrastructure support by way of accommodation, equipment and administrative services. Staff of 25.

- Introduced measures to ensure quality control procedures were effectively standardised throughout the Company, which led to cost savings of 10%.
- Handled all new patent applications and filings during a period of high activity in this area.
- Reduced operating budget of the laboratory by 5%, including staff reductions, with no loss of site performance.
- Designed and conducted training courses for laboratory personnel that improved staff morale and led to efficiency improvements of 15% through better staff utilisation.
- Represented the Company on the Appita testing committee.

Development Superintendent

1983 - 1984 (1 year)

Alphington, Victoria

Project responsibility for evaluating new market opportunities for wood pulp.

- Developed the use of Maryvale pulp as a replacement for asbestos in fibre-cement products, as part of a 13 week staff exchange with James Hardie Industries (today, the process is still regarded as state-of-the-art technology).
- Investigated manufacture of fuels and chemicals from wood.
- Helped to establish design parameters for the operations of \$1.2 million pilot plant for DARS, a radically new process for burning of spent pulping liquors.
- Assisted with the preparation of a feasibility study for pulp mills in Queensland and China.
- Evaluated opportunities for value-added by-products from process sludge.

Environmental Scientist

1981 - 1983 (2 years)

Melbourne CBD

Assisted Chief Chemical Engineer to ensure compliance of environmental standards at APM mills.

- Monitored environmental compliance by AP mills to existing government legislation as part of an in-house review group.
- Collected and interpreted data for inclusion in Environmental Statements.
- Investigated the effect of increased mill process water usage in Gippsland on the environmental quality of the Latrobe River.
- Provided verbal and written advice on matters of environmental concern.
- Identified research areas with potential to improve environmental performance.



Ampcor limited / Australian Paper Manufacturers
Superintendent Pulping Research / Research Scientist
1974 - 1980 (6 years)
Alphington, Victoria

Responsible for the direction and development of major research programs on pulping, bleaching and chemical recovery, including planning and execution of mill trials.

- Led numerous investigations on raw material utilisation, including two major studies on kenaf and bagasse for external clients.
- Assisted in a large laboratory study and extensive mill trials on a major new chemical pulping process, regarded as the most significant technical advance in the field for over 100 years (awarded three patents with co-workers in most major pulp industry countries).
- Undertook fundamental studies that led to postulation of the first mechanism for soda-AQ pulping and subsequent process improvements.
- Conceived and implemented a novel method for assessing the burning behaviour of spent pulping liquors that is still in use some twenty years later.
- Improved the efficiency of oxygen pulping several-fold through kinetic investigations and use of metal complexes as oxygen carriers.
- Coordinated major collaborative research programs at Melbourne University and Ballarat CAE.



Appendix 2 Letter of Instruction and Codes of Conduct



Request for Quote from Independent Subject Matter Expert

9 October 2020

Work specification for Independent Subject Matter Expert

1. Provide a report based upon your independent subject matter expertise as to whether microflute is an identical product with kraft paperboard (or closely resembling kraft paperboard).

Your report should be prepared with the following context in mind:

- Kraft paperboard specifically refers to goods imported into Australia from the United States of America described as:

Kraft paperboard, coated on one side with clay or other inorganic substances, grammage 360-430 grams per square metre (GSM), wet strength treated.

- Microflute is domestically produced in Australia.
- Both kraft paperboard and microflute are an intermediate product which may be further processed into a final product which is later consumed in Australia.

Questions

2. Is Microflute an identical product with kraft paperboard?
3. If you do not consider Microflute to be an identical product with kraft paperboard, set out whether or not they have characteristics that closely resemble one another.

When answering this question, we ask that you give consideration to physical likeness, commercial likeness, functional likeness, production likeness any other consideration which are set out within Chapter 2.3 of the Anti-Dumping Commission's Dumping and Subsidy Manual (November 2018).

4. In addition to microflute, do you consider there to be other products which closely resemble kraft paperboard? If yes, specify these products and to the best of your knowledge outline whether they are manufactured in Australia, and by whom.

Background

5. Part XVB of the *Customs Act 1901* (the Act) implements Australia's obligations under the World Trade Organization Anti-Dumping Agreement and sets out the framework for Australia's anti-dumping system.
6. Australia's anti-dumping system includes a number of inquiries which can be undertaken, including investigations into whether dumping has caused material injury to an Australian industry.
7. Australia's anti-dumping system is administered by the Anti-Dumping Commission (the Commission).
8. Visy Glama Pty Ltd (Visy Glama) made an application for a dumping investigation to the Commission.
9. Visy Glama alleges that kraft paperboard (the goods under consideration) is being dumped into Australia from the United States of America (USA).
10. Dumping generally occurs when a company exports a product into Australia at a price that is lower than the price charged in the country of manufacture.
11. Visy Glama described the goods under consideration as:

Kraft paperboard coated on one side with clay of other inorganic substances, grammage 360-430 GSM, wet strength treated.

12. Visy Glama's application alleges that the importation of the goods under consideration have caused it material injury in respect of its production of like goods.
13. In its application, Visy Glama describe the like goods it produces to be microflute. microflute is subsequently further processed by Visy Glama and sold as beverage packaging.
14. Visy Glama described microflute in its application as:

a narrow caliper corrugated cardboard comprised of three layers as follows:

- *Clay coated top sheet liner (normally printed);*
- *Corrugated medium;*
- *Liner.*

... suitable for applications where strength and durability is required with the ability to offer a high quality printed result. It is often used in place of solid fibre or carton board to obtain the extra strength some products require in refrigerated conditions.

15. The Commission is investigating whether the importation of Kraft paperboard from the USA is causing material injury to Australian industry in respect of like goods.
16. Section 269T(1) of the Act defines like goods as:

in relation to goods under consideration, means goods that are identical in all respects to the goods under consideration or that, although not alike in all respects to the goods under consideration, have characteristics closely resembling those of the goods under consideration.

Specific instructions to the independent subject matter expert

17. A non-confidential final version of your report will be published on the Anti-Dumping Commission's electronic public register ('EPR') located at:

<https://www.industry.gov.au/regulations-and-standards/anti-dumping-and-countervailing-system/anti-dumping-commission-current-cases/548>>. That means, the Commission may redact parts of your report that might contain confidential information. Please accordingly give the Commission a draft version so we may discuss with you parts of the report that contains confidentiality issues before your report is finalised.

18. Where possible you should outline your practical experience in respect of kraft paperboard and microflute, or other products as relevant.
19. The Commission will invite interested parties (including their legal representatives and/or consultants) an opportunity to comment or make submissions in reply to your report.
20. Your quote should factor time that may be required outside of preparation of the report. That may include discussions with Commission staff where you have any questions or require further information and documents.
21. All documents listed in the documents register of this Request for Quote (with the exception of document numbered 0) is available on the EPR.
22. Please read the attached Guideline – Persons Giving Independent Expert Opinion and carry out all requirements under that document.

Document index

Doc #	Date	Description
0	2.10.2020	Instructions to Independent Subject Matter Expert
1	30.03.2020	Application for the publication of dumping and/or countervailing duty notices (Visy Glama Pty Ltd)
2	30.03.2020	CON548 – Consideration Report (Anti-Dumping Commission)
3	30.03.2020	2020/32 – Initiation of an investigation into alleged dumping (Anti-Dumping Commission)
4	7.05.2020	File Note – Response to exporter questionnaire status report (Anti-Dumping Commission)
5	14.05.2020	Submissions on injury and like goods (Graphic Packaging International LLC)
6	29.05.2020	2020/55 – Day 60 status report (Anti-Dumping Commission)
7	04.06.2020	Submissions on like goods – report by Charles P. Klass (Graphic Packaging International LLC)
8	09.06.2020	Submissions on about the goods under consideration (WestRock Company)
9	22.06.2020	Response (with non-confidential attachment 1-5) to submissions by Graphic Packaging International LLC (Visy Glama Pty Ltd)
10	22.06.2020	Questionnaire – Part A (West Rock Company)
11	22.06.2020	Questionnaire – Parts B-G (West Rock Company)

12	22.06.2020	Questionnaire – Part A (Graphic Packaging International)
13	22.06.2020	Questionnaire – Parts B-G (Graphic Packaging International)
14	17.07.2020	2020/82 – Extension of time for statement of essential facts and final report (Anti-Dumping Commission)
15	27.07.2020	A supplementary report by Charles P. Klass about whether Kraft paperboard and Microflute are like goods (Graphic Packaging International LLC)
16	27.07.2020	Response to submissions made by Visy Glama Pty Ltd (Graphic Packaging International LLC)
17	28.07.2020	Addendum submissions (Graphic Packaging International LLC)
18	7.09.2020	Second submissions on like goods (Visy Glama Pty Ltd)
19	7.09.2020	Issues Paper – Like Goods with Respect to the Goods Under Consideration (Anti-Dumping Commission) ('ADC Issues Paper')
20	23.09.2020	Response to the ADC Issues Paper (West Rock Company)
21	23.09.2020	Response to the ADC Issues Paper (Graphic Packaging International)

<i>Policy Manual</i>		
22	11.2018	<i>Dumping and Subsidy Manual, Anti-Dumping Commission:</i>



Guideline - Persons Giving Independent Expert Opinion

1. About this Guideline

Application

- 1.1 The Anti-Dumping Commission ('the Commission') administers Australia's anti-dumping system. The Commission may rely upon opinions given by persons with special knowledge or experience in an area assists it to make recommendations to the responsible Minister reach the correct or preferable decision.
- 1.2 The Commission is not bound by the rules of evidence and may take into account any matter that is relevant to the issues under consideration. In particular, the Commission may have regard to material that would not be admissible in a court applying the rules of evidence. The Commission must determine the weight that should be given to any documents and information that is before it.
- 1.3 This Guideline applies to any independent expert opinion given to the Commission that has been obtained from a person because they have special knowledge or experience in a subject area.
- 1.4 Compliance with the matters referred to in this Guideline may be relevant to determining the weight that will be given to opinion from the person.

2. Duty of the person giving independent expert opinion

- 2.1 A person giving opinion based on their special knowledge or experience in an area:
 - (a) has an overriding duty to give impartial assistance to the Commission on matters relevant to the person's area of knowledge or experience;
 - (b) is not an advocate for the Commission or any interested party during the course of the Commission considering anti-dumping matters.

3. Reports

- 3.1 A written report prepared for the Commission must include the following information either in the body of the report or as an annexure:
 - (a) details of the person's area of knowledge and his or her qualifications and/or experience;
 - (b) the letter of instruction or details of the questions or issues the person was asked to address in the report as well as a reference to any documents or other materials the person was given to consider;

- (c) details of any facts and assumptions that inform the report and the sources for the factual information in the report; and
 - (d) reasons for any opinion that is expressed.
- 3.2 Where relevant, the written report must also include the following information either in the body of the report or as an annexure:
- (a) details of any examinations, tests or other investigations upon which the person has relied in preparing the report as well as the identity, qualifications and experience of the person who conducted any examinations, tests or investigations;
 - (b) details of any literature or other material relied on particularly in preparing the report.
- 3.3 If the person preparing the report believes their opinion is not a concluded opinion or the person is unable to reach a concluded opinion for any reason, this must be stated in the report. Where the person believes the report may be incomplete or inaccurate without some qualification, that qualification must also be stated in the report.
- 3.4 A person preparing a report must make it clear when a particular question or issue falls outside his or her field of knowledge.

Declaration

- 3.5 Any report prepared for the Commission, whether it consists of factual information only or factual information and opinion, must include the following declaration:

I acknowledge a duty to give impartial assistance to the Anti-Dumping Commission. No matters of significance have been withheld from the Anti-Dumping Commission and I agree to comply with the Guideline – Persons Giving Independent Expert Opinion.

General matters relating to reports prepared for Commission

- 3.6 The report should be written in plain English so that it may be understood by a lay audience.
- 3.7 The report should avoid making any legal conclusions or attempting to carry out statutory interpretation. That includes both Australian legislation and international agreements.
- 3.8 To the extent to which any opinion expressed in the report involves the acceptance (or disagreement) of another person's opinion, the report must identify that other person and opinion expressed by that other person, as well as the reasoning behind acceptance or disagreement with that person.
- 3.9 If a person who has prepared a report:
- (a) becomes aware of a material error or omission relating to a factual matter in a report; or
 - (b) changes their opinion on a material matter for any reason;
- they must notify the Commission immediately.
- 3.10 Once a person has finalised their report and submitted it to the Commission, that report may be published on the Commission's electronic public register.

4. Conflict of interest

- 4.1 If a person is, or becomes, aware of an actual or perceived conflict of interest that may impact on their role, the person must immediately disclose this to the Commission.



EXPERT EVIDENCE PRACTICE NOTE (GPN-EXPT)

General Practice Note

1. INTRODUCTION

- 1.1 This practice note, including the *Harmonised Expert Witness Code of Conduct* (“**Code**”) (see **Annexure A**) and the *Concurrent Expert Evidence Guidelines* (“**Concurrent Evidence Guidelines**”) (see **Annexure B**), applies to any proceeding involving the use of expert evidence and must be read together with:
- (a) the Central Practice Note (CPN-1), which sets out the fundamental principles concerning the National Court Framework (“**NCF**”) of the Federal Court and key principles of case management procedure;
 - (b) the Federal Court of Australia Act 1976 (Cth) (“**Federal Court Act**”);
 - (c) the *Evidence Act 1995* (Cth) (“**Evidence Act**”), including Part 3.3 of the Evidence Act;
 - (d) Part 23 of the *Federal Court Rules 2011* (Cth) (“**Federal Court Rules**”); and
 - (e) where applicable, the Survey Evidence Practice Note (GPN-SURV).
- 1.2 This practice note takes effect from the date it is issued and, to the extent practicable, applies to proceedings whether filed before, or after, the date of issuing.

2. APPROACH TO EXPERT EVIDENCE

- 2.1 An expert witness may be retained to give opinion evidence in the proceeding, or, in certain circumstances, to express an opinion that may be relied upon in alternative dispute resolution procedures such as mediation or a conference of experts. In some circumstances an expert may be appointed as an independent adviser to the Court.
- 2.2 The purpose of the use of expert evidence in proceedings, often in relation to complex subject matter, is for the Court to receive the benefit of the objective and impartial assessment of an issue from a witness with specialised knowledge (based on training, study or experience - see generally s 79 of the Evidence Act).
- 2.3 However, the use or admissibility of expert evidence remains subject to the overriding requirements that:
- (a) to be admissible in a proceeding, any such evidence must be relevant (s 56 of the Evidence Act); and
 - (b) even if relevant, any such evidence, may be refused to be admitted by the Court if its probative value is outweighed by other considerations such as the evidence

being unfairly prejudicial, misleading or will result in an undue waste of time (s 135 of the Evidence Act).

- 2.4 An expert witness' opinion evidence may have little or no value unless the assumptions adopted by the expert (ie. the facts or grounds relied upon) and his or her reasoning are expressly stated in any written report or oral evidence given.
- 2.5 The Court will ensure that, in the interests of justice, parties are given a reasonable opportunity to adduce and test relevant expert opinion evidence. However, the Court expects parties and any legal representatives acting on their behalf, when dealing with expert witnesses and expert evidence, to at all times comply with their duties associated with the overarching purpose in the Federal Court Act (see ss 37M and 37N).

3. INTERACTION WITH EXPERT WITNESSES

- 3.1 Parties and their legal representatives should never view an expert witness retained (or partly retained) by them as that party's advocate or "hired gun". Equally, they should never attempt to pressure or influence an expert into conforming his or her views with the party's interests.
- 3.2 A party or legal representative should be cautious not to have inappropriate communications when retaining or instructing an independent expert, or assisting an independent expert in the preparation of his or her evidence. However, it is important to note that there is no principle of law or practice and there is nothing in this practice note that obliges a party to embark on the costly task of engaging a "consulting expert" in order to avoid "contamination" of the expert who will give evidence. Indeed the Court would generally discourage such costly duplication.
- 3.3 Any witness retained by a party for the purpose of preparing a report or giving evidence in a proceeding as to an opinion held by the witness that is wholly or substantially based in the specialised knowledge of the witness¹ should, at the earliest opportunity, be provided with:
 - (a) a copy of this practice note, including the Code (see Annexure A); and
 - (b) all relevant information (whether helpful or harmful to that party's case) so as to enable the expert to prepare a report of a truly independent nature.
- 3.4 Any questions or assumptions provided to an expert should be provided in an unbiased manner and in such a way that the expert is not confined to addressing selective, irrelevant or immaterial issues.

¹ Such a witness includes a "Court expert" as defined in r 23.01 of the Federal Court Rules. For the definition of "expert", "expert evidence" and "expert report" see the Dictionary, in Schedule 1 of the Federal Court Rules.

4. ROLE AND DUTIES OF THE EXPERT WITNESS

- 4.1 The role of the expert witness is to provide relevant and impartial evidence in his or her area of expertise. An expert should never mislead the Court or become an advocate for the cause of the party that has retained the expert.
- 4.2 It should be emphasised that there is nothing inherently wrong with experts disagreeing or failing to reach the same conclusion. The Court will, with the assistance of the evidence of the experts, reach its own conclusion.
- 4.3 However, experts should willingly be prepared to change their opinion or make concessions when it is necessary or appropriate to do so, even if doing so would be contrary to any previously held or expressed view of that expert.

Harmonised Expert Witness Code of Conduct

- 4.4 Every expert witness giving evidence in this Court must read the *Harmonised Expert Witness Code of Conduct* (attached in Annexure A) and agree to be bound by it.
- 4.5 The Code is not intended to address all aspects of an expert witness' duties, but is intended to facilitate the admission of opinion evidence, and to assist experts to understand in general terms what the Court expects of them. Additionally, it is expected that compliance with the Code will assist individual expert witnesses to avoid criticism (rightly or wrongly) that they lack objectivity or are partisan.

5. CONTENTS OF AN EXPERT'S REPORT AND RELATED MATERIAL

- 5.1 The contents of an expert's report must conform with the requirements set out in the Code (including clauses 3 to 5 of the Code).
- 5.2 In addition, the contents of such a report must also comply with r 23.13 of the *Federal Court Rules*. Given that the requirements of that rule significantly overlap with the requirements in the Code, an expert, unless otherwise directed by the Court, will be taken to have complied with the requirements of r 23.13 if that expert has complied with the requirements in the Code and has complied with the additional following requirements. The expert shall:
 - (a) acknowledge in the report that:
 - (i) the expert has read and complied with this practice note and agrees to be bound by it; and
 - (ii) the expert's opinions are based wholly or substantially on specialised knowledge arising from the expert's training, study or experience;
 - (b) identify in the report the questions that the expert was asked to address;
 - (c) sign the report and attach or exhibit to it copies of:
 - (i) documents that record any instructions given to the expert; and

- (ii) documents and other materials that the expert has been instructed to consider.

5.3 Where an expert's report refers to photographs, plans, calculations, analyses, measurements, survey reports or other extrinsic matter, these must be provided to the other parties at the same time as the expert's report.

6. CASE MANAGEMENT CONSIDERATIONS

6.1 Parties intending to rely on expert evidence at trial are expected to consider between them and inform the Court at the earliest opportunity of their views on the following:

- (a) whether a party should adduce evidence from more than one expert in any single discipline;
- (b) whether a common expert is appropriate for all or any part of the evidence;
- (c) the nature and extent of expert reports, including any in reply;
- (d) the identity of each expert witness that a party intends to call, their area(s) of expertise and availability during the proposed hearing;
- (e) the issues that it is proposed each expert will address;
- (f) the arrangements for a conference of experts to prepare a joint-report (see Part 7 of this practice note);
- (g) whether the evidence is to be given concurrently and, if so, how (see Part 8 of this practice note); and
- (h) whether any of the evidence in chief can be given orally.

6.2 It will often be desirable, before any expert is retained, for the parties to attempt to agree on the question or questions proposed to be the subject of expert evidence as well as the relevant facts and assumptions. The Court may make orders to that effect where it considers it appropriate to do so.

7. CONFERENCE OF EXPERTS AND JOINT-REPORT

7.1 Parties, their legal representatives and experts should be familiar with aspects of the Code relating to conferences of experts and joint-reports (see clauses 6 and 7 of the Code attached in Annexure A).

7.2 In order to facilitate the proper understanding of issues arising in expert evidence and to manage expert evidence in accordance with the overarching purpose, the Court may require experts who are to give evidence or who have produced reports to meet for the purpose of identifying and addressing the issues not agreed between them with a view to reaching agreement where this is possible ("**conference of experts**"). In an appropriate case, the Court may appoint a registrar of the Court or some other suitably qualified person ("**Conference Facilitator**") to act as a facilitator at the conference of experts.

- 7.3 It is expected that where expert evidence may be relied on in any proceeding, at the earliest opportunity, parties will discuss and then inform the Court whether a conference of experts and/or a joint-report by the experts may be desirable to assist with or simplify the giving of expert evidence in the proceeding. The parties should discuss the necessary arrangements for any conference and/or joint-report. The arrangements discussed between the parties should address:
- (a) who should prepare any joint-report;
 - (b) whether a list of issues is needed to assist the experts in the conference and, if so, whether the Court, the parties or the experts should assist in preparing such a list;
 - (c) the agenda for the conference of experts; and
 - (d) arrangements for the provision, to the parties and the Court, of any joint-report or any other report as to the outcomes of the conference (“**conference report**”).

Conference of Experts

- 7.4 The purpose of the conference of experts is for the experts to have a comprehensive discussion of issues relating to their field of expertise, with a view to identifying matters and issues in a proceeding about which the experts agree, partly agree or disagree and why. For this reason the conference is attended only by the experts and any Conference Facilitator. Unless the Court orders otherwise, the parties' lawyers will not attend the conference but will be provided with a copy of any conference report.
- 7.5 The Court may order that a conference of experts occur in a variety of circumstances, depending on the views of the judge and the parties and the needs of the case, including:
- (a) while a case is in mediation. When this occurs the Court may also order that the outcome of the conference or any document disclosing or summarising the experts' opinions be confidential to the parties while the mediation is occurring;
 - (b) before the experts have reached a final opinion on a relevant question or the facts involved in a case. When this occurs the Court may order that the parties exchange draft expert reports and that a conference report be prepared for the use of the experts in finalising their reports;
 - (c) after the experts' reports have been provided to the Court but before the hearing of the experts' evidence. When this occurs the Court may also order that a conference report be prepared (jointly or otherwise) to ensure the efficient hearing of the experts' evidence.
- 7.6 Subject to any other order or direction of the Court, the parties and their lawyers must not involve themselves in the conference of experts process. In particular, they must not seek to encourage an expert not to agree with another expert or otherwise seek to influence the outcome of the conference of experts. The experts should raise any queries they may have in relation to the process with the Conference Facilitator (if one has been appointed) or in

accordance with a protocol agreed between the lawyers prior to the conference of experts taking place (if no Conference Facilitator has been appointed).

- 7.7 Any list of issues prepared for the consideration of the experts as part of the conference of experts process should be prepared using non-tendentious language.
- 7.8 The timing and location of the conference of experts will be decided by the judge or a registrar who will take into account the location and availability of the experts and the Court's case management timetable. The conference may take place at the Court and will usually be conducted in-person. However, if not considered a hindrance to the process, the conference may also be conducted with the assistance of visual or audio technology (such as via the internet, video link and/or by telephone).
- 7.9 Experts should prepare for a conference of experts by ensuring that they are familiar with all of the material upon which they base their opinions. Where expert reports in draft or final form have been exchanged prior to the conference, experts should attend the conference familiar with the reports of the other experts. Prior to the conference, experts should also consider where they believe the differences of opinion lie between them and what processes and discussions may assist to identify and refine those areas of difference.

Joint-report

- 7.10 At the conclusion of the conference of experts, unless the Court considers it unnecessary to do so, it is expected that the experts will have narrowed the issues in respect of which they agree, partly agree or disagree in a joint-report. The joint-report should be clear, plain and concise and should summarise the views of the experts on the identified issues, including a succinct explanation for any differences of opinion, and otherwise be structured in the manner requested by the judge or registrar.
- 7.11 In some cases (and most particularly in some native title cases), depending on the nature, volume and complexity of the expert evidence a judge may direct a registrar to draft part, or all, of a conference report. If so, the registrar will usually provide the draft conference report to the relevant experts and seek their confirmation that the conference report accurately reflects the opinions of the experts expressed at the conference. Once that confirmation has been received the registrar will finalise the conference report and provide it to the intended recipient(s).

8. CONCURRENT EXPERT EVIDENCE

- 8.1 The Court may determine that it is appropriate, depending on the nature of the expert evidence and the proceeding generally, for experts to give some or all of their evidence concurrently at the final (or other) hearing.
- 8.2 Parties should familiarise themselves with the *Concurrent Expert Evidence Guidelines* (attached in Annexure B). The Concurrent Evidence Guidelines are not intended to be exhaustive but indicate the circumstances when the Court might consider it appropriate for

concurrent expert evidence to take place, outline how that process may be undertaken, and assist experts to understand in general terms what the Court expects of them.

- 8.3 If an order is made for concurrent expert evidence to be given at a hearing, any expert to give such evidence should be provided with the Concurrent Evidence Guidelines well in advance of the hearing and should be familiar with those guidelines before giving evidence.

9. FURTHER PRACTICE INFORMATION AND RESOURCES

- 9.1 Further information regarding Expert Evidence and Expert Witnesses is available on the Court's website.
- 9.2 Further information to assist litigants, including a range of helpful guides, is also available on the Court's website. This information may be particularly helpful for litigants who are representing themselves.

J L B ALLSOP
Chief Justice
25 October 2016

Annexure A

HARMONISED EXPERT WITNESS CODE OF CONDUCT²

APPLICATION OF CODE

1. This Code of Conduct applies to any expert witness engaged or appointed:
 - (a) to provide an expert's report for use as evidence in proceedings or proposed proceedings; or
 - (b) to give opinion evidence in proceedings or proposed proceedings.

GENERAL DUTIES TO THE COURT

2. An expert witness is not an advocate for a party and has a paramount duty, overriding any duty to the party to the proceedings or other person retaining the expert witness, to assist the Court impartially on matters relevant to the area of expertise of the witness.

CONTENT OF REPORT

3. Every report prepared by an expert witness for use in Court shall clearly state the opinion or opinions of the expert and shall state, specify or provide:
 - (a) the name and address of the expert;
 - (b) an acknowledgment that the expert has read this code and agrees to be bound by it;
 - (c) the qualifications of the expert to prepare the report;
 - (d) the assumptions and material facts on which each opinion expressed in the report is based [a letter of instructions may be annexed];
 - (e) the reasons for and any literature or other materials utilised in support of such opinion;
 - (f) (if applicable) that a particular question, issue or matter falls outside the expert's field of expertise;
 - (g) any examinations, tests or other investigations on which the expert has relied, identifying the person who carried them out and that person's qualifications;
 - (h) the extent to which any opinion which the expert has expressed involves the acceptance of another person's opinion, the identification of that other person and the opinion expressed by that other person;
 - (i) a declaration that the expert has made all the inquiries which the expert believes are desirable and appropriate (save for any matters identified explicitly in the report), and that no matters of significance which the expert regards as relevant have, to the

² Approved by the Council of Chief Justices' Rules Harmonisation Committee

- knowledge of the expert, been withheld from the Court;
- (j) any qualifications on an opinion expressed in the report without which the report is or may be incomplete or inaccurate;
 - (k) whether any opinion expressed in the report is not a concluded opinion because of insufficient research or insufficient data or for any other reason; and
 - (l) where the report is lengthy or complex, a brief summary of the report at the beginning of the report.

SUPPLEMENTARY REPORT FOLLOWING CHANGE OF OPINION

- 4. Where an expert witness has provided to a party (or that party's legal representative) a report for use in Court, and the expert thereafter changes his or her opinion on a material matter, the expert shall forthwith provide to the party (or that party's legal representative) a supplementary report which shall state, specify or provide the information referred to in paragraphs (a), (d), (e), (g), (h), (i), (j), (k) and (l) of clause 3 of this code and, if applicable, paragraph (f) of that clause.
- 5. In any subsequent report (whether prepared in accordance with clause 4 or not) the expert may refer to material contained in the earlier report without repeating it.

DUTY TO COMPLY WITH THE COURT'S DIRECTIONS

- 6. If directed to do so by the Court, an expert witness shall:
 - (a) confer with any other expert witness;
 - (b) provide the Court with a joint-report specifying (as the case requires) matters agreed and matters not agreed and the reasons for the experts not agreeing; and
 - (c) abide in a timely way by any direction of the Court.

CONFERENCE OF EXPERTS

- 7. Each expert witness shall:
 - (a) exercise his or her independent judgment in relation to every conference in which the expert participates pursuant to a direction of the Court and in relation to each report thereafter provided, and shall not act on any instruction or request to withhold or avoid agreement; and
 - (b) endeavour to reach agreement with the other expert witness (or witnesses) on any issue in dispute between them, or failing agreement, endeavour to identify and clarify the basis of disagreement on the issues which are in dispute.

ANNEXURE B

CONCURRENT EXPERT EVIDENCE GUIDELINES

APPLICATION OF THE COURT'S GUIDELINES

1. The Court's Concurrent Expert Evidence Guidelines ("**Concurrent Evidence Guidelines**") are intended to inform parties, practitioners and experts of the Court's general approach to concurrent expert evidence, the circumstances in which the Court might consider expert witnesses giving evidence concurrently and, if so, the procedures by which their evidence may be taken.

OBJECTIVES OF CONCURRENT EXPERT EVIDENCE TECHNIQUE

2. The use of concurrent evidence for the giving of expert evidence at hearings as a case management technique³ will be utilised by the Court in appropriate circumstances (see r 23.15 of the *Federal Court Rules 2011* (Cth)). Not all cases will suit the process. For instance, in some patent cases, where the entire case revolves around conflicts within fields of expertise, concurrent evidence may not assist a judge. However, patent cases should not be excluded from concurrent expert evidence processes.
3. In many cases the use of concurrent expert evidence is a technique that can reduce the partisan or confrontational nature of conventional hearing processes and minimises the risk that experts become "opposing experts" rather than independent experts assisting the Court. It can elicit more precise and accurate expert evidence with greater input and assistance from the experts themselves.
4. When properly and flexibly applied, with efficiency and discipline during the hearing process, the technique may also allow the experts to more effectively focus on the critical points of disagreement between them, identify or resolve those issues more quickly, and narrow the issues in dispute. This can also allow for the key evidence to be given at the same time (rather than being spread across many days of hearing); permit the judge to assess an expert more readily, whilst allowing each party a genuine opportunity to put and test expert evidence. This can reduce the chance of the experts, lawyers and the judge misunderstanding the opinions being expressed by the experts.
5. It is essential that such a process has the full cooperation and support of all of the individuals involved, including the experts and counsel involved in the questioning process. Without that cooperation and support the process may fail in its objectives and even hinder the case management process.

³ Also known as the "hot tub" or as "expert panels".

CASE MANAGEMENT

6. Parties should expect that, the Court will give careful consideration to whether concurrent evidence is appropriate in circumstances where there is more than one expert witness having the same expertise who is to give evidence on the same or related topics. Whether experts should give evidence concurrently is a matter for the Court, and will depend on the circumstances of each individual case, including the character of the proceeding, the nature of the expert evidence, and the views of the parties.
7. Although this consideration may take place at any time, including the commencement of the hearing, if not raised earlier, parties should raise the issue of concurrent evidence at the first appropriate case management hearing, and no later than any pre-trial case management hearing, so that orders can be made in advance, if necessary. To that end, prior to the hearing at which expert evidence may be given concurrently, parties and their lawyers should confer and give general consideration as to:
 - (a) the agenda;
 - (b) the order and manner in which questions will be asked; and
 - (c) whether cross-examination will take place within the context of the concurrent evidence or after its conclusion.
8. At the same time, and before any hearing date is fixed, the identity of all experts proposed to be called and their areas of expertise is to be notified to the Court by all parties.
9. The lack of any concurrent evidence orders does not mean that the Court will not consider using concurrent evidence without prior notice to the parties, if appropriate.

CONFERENCE OF EXPERTS & JOINT-REPORT OR LIST OF ISSUES

10. The process of giving concurrent evidence at hearings may be assisted by the preparation of a joint-report or list of issues prepared as part of a conference of experts.
11. Parties should expect that, where concurrent evidence is appropriate, the Court may make orders requiring a conference of experts to take place or for documents such as a joint-report to be prepared to facilitate the concurrent expert evidence process at a hearing (see Part 7 of the Expert Evidence Practice Note).

PROCEDURE AT HEARING

12. Concurrent expert evidence may be taken at any convenient time during the hearing, although it will often occur at the conclusion of both parties' lay evidence.
13. At the hearing itself, the way in which concurrent expert evidence is taken must be applied flexibly and having regard to the characteristics of the case and the nature of the evidence to be given.
14. Without intending to be prescriptive of the procedure, parties should expect that, when evidence is given by experts in concurrent session:

- (a) the judge will explain to the experts the procedure that will be followed and that the nature of the process may be different to their previous experiences of giving expert evidence;
 - (b) the experts will be grouped and called to give evidence together in their respective fields of expertise;
 - (c) the experts will take the oath or affirmation together, as appropriate;
 - (d) the experts will sit together with convenient access to their materials for their ease of reference, either in the witness box or in some other location in the courtroom, including (if necessary) at the bar table;
 - (e) each expert may be given the opportunity to provide a summary overview of their current opinions and explain what they consider to be the principal issues of disagreement between the experts, as they see them, in their own words;
 - (f) the judge will guide the process by which evidence is given, including, where appropriate:
 - (i) using any joint-report or list of issues as a guide for all the experts to be asked questions by the judge and counsel, about each issue on an issue-by-issue basis;
 - (ii) ensuring that each expert is given an adequate opportunity to deal with each issue and the exposition given by other experts including, where considered appropriate, each expert asking questions of other experts or supplementing the evidence given by other experts;
 - (iii) inviting legal representatives to identify the topics upon which they will cross-examine;
 - (iv) ensuring that legal representatives have an adequate opportunity to ask all experts questions about each issue. Legal representatives may also seek responses or contributions from one or more experts in response to the evidence given by a different expert; and
 - (v) allowing the experts an opportunity to summarise their views at the end of the process where opinions may have been changed or clarifications are needed.
15. The fact that the experts may have been provided with a list of issues for consideration does not confine the scope of any cross-examination of any expert. The process of cross-examination remains subject to the overall control of the judge.
16. The concurrent session should allow for a sensible and orderly series of exchanges between expert and expert, and between expert and lawyer. Where appropriate, the judge may allow for more traditional cross-examination to be pursued by a legal representative on a particular issue exclusively with one expert. Where that occurs, other experts may be asked to comment on the evidence given.
17. Where any issue involves only one expert, the party wishing to ask questions about that issue should let the judge know in advance so that consideration can be given to whether

arrangements should be made for that issue to be dealt with after the completion of the concurrent session. Otherwise, as far as practicable, questions (including in the form of cross-examination) will usually be dealt with in the concurrent session.

18. Throughout the concurrent evidence process the judge will ensure that the process is fair and effective (for the parties and the experts), balanced (including not permitting one expert to overwhelm or overshadow any other expert), and does not become a protracted or inefficient process.