Federal Court of Australia

District Registry: New South Wales

Division: General

No NSD 1484 of 2025

On appeal from the Federal Court of Australia

Dyno Nobel Asia Pacific Pty Ltd ACN 003 269 010

Appellant/Cross-Respondent

Orica Explosives Technology Pty Ltd ACN 075 659 353 and others

Respondents/Cross-Appellant

DYNO NOBEL'S OUTLINE OF SUBMISSIONS IN CHIEF

(24 February 2026)

[redacted]

Filed on behalf of (name & role of party)	Dyno Nobel Asia Pacific Pty Ltd, the Appellant/Cross-Respondent
Prepared by (name of person/lawyer)	Robert Cooper, Partner
Law firm (if applicable)	MinterEllison
Tel	03 8608 2625
Fax	03 4232 3920
Email	robert.cooper@minterellison.com
Address for service (include state and postcode)	Collins Arch, 447 Collins Street, MELBOURNE VIC 3000

CONTENTS

A. INTRODUCTION

1. This appeal raises issues of validity and infringement in respect of four patents, referred to in the reasons of the primary judge (Pt A Tab 15; **PJ**) as the **079**, **165**, **873** and **943 Patents**. The patents are concerned generally with apparatus and methods for blasting in the field of mining, including via wireless detonation of charges.

2. The primary judge rejected a challenge by the appellant (**DNAP**) to the validity of each patent and held that DNAP had infringed three of the patents by exploiting and supplying certain wireless detonator devices. DNAP initially appealed from those findings in respect of the three patents it had been found to infringe, being the 079, 165 and 943 Patents. One of the respondents (collectively, **Orica**) then cross-appealed against the findings of non-infringement of the remaining patent, being the 873 Patent. In response, DNAP amended its notice of appeal so as to challenge the primary judge's findings of validity in relation to the 873 Patent. Each side has also filed a notice of contention or cross-contention raising additional matters in response (Pt A Tabs 18-20).

3. This outline of submissions deals with DNAP's appeal, which is directed to the validity of each of the four patents. The grounds of appeal are identified below by reference to DNAP's amended notice of appeal (Pt A Tab 18; **ANoA**). The issues raised by ground 7 of Orica's notice of contention (Pt A Tab 19) are also addressed.

4. For the reasons outlined below, DNAP respectfully submits that the primary judge erred in her approach to the validity of the four patents, with the consequence that her Honour's findings of validity and infringement were wrongly made. In particular, her Honour erred in her construction of each of the patents, including as to the proper characterisation of the inventions for the purposes of DNAP's "*best method*" challenge to the 079 and 165 Patents, the proper characterisation of the invention and the notional person skilled in the relevant art for the 943 Patent, and the meaning of key terms and phrases used in all four patents. The effect of these errors was to undermine her Honour's approach to the substantive grounds of invalidity for each patent addressed further below.

5. DNAP also respectfully submits that the primary judge erred in other ways relevant to the issues raised on appeal. These included errors of principle in the application of the best method requirement and in the consideration of the question of manner of manufacture on the face of the specification for the 943 Patent. More generally, her Honour's approach in relation to all four patents involved an over-emphasis on pleading issues which her Honour considered arose and in relation to which she found against

DNAP, in circumstances where, properly understood, DNAP's case was fairly foreshadowed and articulated in its pleadings, particulars, evidence and submissions below.

6. The principles applicable in an appeal such as the present are well-established: see *Aldi Foods Pty Ltd v Moroccanoil Israel Ltd* (2018) 261 FCR 301 at [2]-[10], [43]-[54]. In short, the Full Court is bound to conduct a real review of the evidence and the primary judge's reasons to determine whether the primary judge erred. Where error is demonstrated, the Full Court is required to intervene and make its own findings. In this context, it is relevant to consider the extent of any perceived advantages of the primary judge relating to the matters in issue. Importantly, as outlined above, key aspects of DNAP's appeal involve questions of construction, and questions of law or principle, which the Full Court is in as good a position as the primary judge to decide.

7. It follows that the appeal should be allowed. Orica's cross-appeal, which challenges the finding of non-infringement of the 873 Patent, will be addressed separately in answer.

B. 079 AND 165 PATENTS

B.1 Overview and construction issues (ANoA [1]-[3])

8. ***Introduction***. DNAP challenges the primary judge's findings in relation to the 079 and 165 Patents based on one ground of invalidity: the failure of the complete specification of each patent to describe the best method known to Orica of performing the invention in accordance with s 40(2)(a) of the *Patents **Act** 1990* (Cth) (as applicable to the patents). In DNAP's respectful submission, this is a clear case of lack of best method.

9. DNAP's best method case was and is straightforward. The 079 and 165 Patents describe and claim a "*wireless detonator assembly*" (079 Patent; Pt A Tab 1) and a "*wireless electronic booster*" (165 Patent; Pt A Tab 2) which operate by means of a "*charge storage device*" performing a "*voltage multiplication*" (**VM**) function. Such a VM means is necessary to achieve the stated aim of eliminating the risk of inadvertent actuation of the base charge (and thus inadvertent detonation of explosives): PJ [577]. As the primary judge accepted, the only examples of "*charge storage devices*" given in the specification are devices which individually are unable to perform a VM function: PJ [279]. Orica had knowledge, however, of an embodiment which performed a VM function: PJ [594], [603]-[604]. As such, by failing to describe *any* charge storage device which would perform a VM function, and more particularly, the *particular* VM means it had developed and decided to use in its commercial embodiment of the inventions, Orica failed to

describe the best method known to it of performing the inventions as required by s 40(2)(a).

10. The primary judge rejected this case on the footing that the inventions in the 079 and 165 Patents are concerned with the "*architecture*" of the claimed features, and not with "*how the VM works*" or directed to "*specific VM means*": PJ [576]-[580]. As the authorities make clear, this was an error, in circumstances where a functioning VM means is central to the performance of each invention, and is material to the advantages it is claimed each invention brings. In short, the effect of her Honour's reasoning was to assume away any requirement to disclose the best method, contrary to s 40(2)(a).

11. ***Applicable principles***. Section 40(2)(a) as applicable to the patents (and see s 40(2)(aa) in the current Act) requires that the complete specification "*describe … the best method known to the applicant of performing the invention*" at the filing date of the patent application: PJ [541]. This requirement is "*a fundamental aspect governing the grant of a patent*", which "*supplements the co-ordinate requirement in s 40(2)(a) that the complete specification also describe the invention fully*": *Apotex Pty Ltd v Les Laboratoires Servier* [2013] FCA 1426 at [164] per Rares J; upheld by the Full Court in *Les Laboratoires* ***Servier*** *v Apotex Pty Ltd* (2016) 247 FCR 61.

12. The most recent Full Court decision in this area is ***Zoetis*** *Services LLC v Boehringer Ingelheim Animal Health USA Inc* (2024) 306 FCR 19. Relevantly, the Full Court confirmed the following principles. *First*, the effect of the best method requirement is that, where a patent applicant knows of a method which permits the invention to be more satisfactorily performed, it must disclose that method: at [15]. *Secondly*, the nature and extent of the disclosure required depends on the nature of the invention itself, which is to be ascertained from the description and claims: at [14]-[15]. *Thirdly*, the patent applicant "*has an obligation to include aspects of the method of manufacture that are material to the advantages it is claimed the invention brings*": at [16], quoting *Servier* at [135]. *Fourthly*, the patent applicant is not entitled to withhold information necessary to enable the skilled person to perform the invention in accordance with the best method merely because such information could be ascertained by routine experiment: at [29]. *Fifthly*, a generalised disclosure encompassing all embodiments without disclosing the details of any of them will not satisfy the best method requirement: at [57].

13. Applying these principles, in each of *Zoetis*, *Servier* and ***Sandvik*** *Intellectual Property AB v Quarry Mining & Construction Equipment Pty Ltd* (2017) 348 ALR 156, the Full Court held that the best method requirement was not met. Thus in *Servier*, the particular "*classical methods of salification*" used by the patent applicant to make the claimed

pharmaceutical salt had to be disclosed, notwithstanding that these were common general knowledge (**CGK**) methods: *Servier* at [134]; *Zoetis* at [17]. In *Sandvik*, the particular water sealing mechanism used by the patent applicant for its extension drilling system had to be disclosed, notwithstanding that no claim was made for a specific water sealing mechanism: *Sandvik* at [124]; *Zoetis* at [18]. In *Zoetis*, the particular concentrations of the antigens used in embodiments of the claimed vaccines had to be disclosed, notwithstanding that ranges of antigen concentrations encompassing those embodiments were disclosed: *Zoetis* at [49]-[53], [54], [57]. In each case, the information not disclosed was material to the advantages it was claimed the invention would bring.

14. The primary judge referred to these authorities and various relevant principles at PJ [542]-[543], but failed properly to apply them to the 079 and 165 Patents.

15. ***The 079 Patent***. As noted, the 079 Patent (Pt A Tab 1) describes and claims a "*wireless detonator assembly*". The field of the invention refers to the improved safety of such assemblies (p 1.4). The background identifies that the development of wireless blasting systems presents new challenges, including that each assembly must include independent power supply sufficient to power the signal receiving, processing, and transmission components, but that the operating power supply presents an inherent risk of inadvertent actuation (pp 2.26-3.9). The summary of the invention states that the invention provides a detonator or detonator assembly in which the risk of inadvertent activation and actuation of the base charge is essentially eliminated (pp 4.8-13, 4.24).

16. The 079 Patent goes on to explain that the assembly may comprise a charge storage device or other form of VM means, the stored charge being discharged to the firing circuitry only in response to a fire signal (pp 4.27-5.2). It then sets out a first aspect of the invention, which includes a charge storage device supplied by a power source having a maximum voltage less than a threshold voltage or current, where the output of electrical energy from the charge storage device exceeds the threshold voltage or current (pp 5.4-5.30). This part of the description explains that, preferably, the base charge actuates in response to a signal to FIRE only if the electric current in the firing circuit is at least 20% greater than a threshold current for firing. In this regard, as the primary judge found at PJ [274], the 079 Patent discloses a sub-threshold level of charge going into the charge storage device. For the device to fire, a super-threshold level comes out. The charge storage device increases the sub-level threshold to achieve actuation: as her Honour found at PJ [577], it acts as a VM means to avoid inadvertent actuation.

17. The primary judge reasoned at PJ [275] that the skilled person would understand that the features of the charge storage device are that: (a) it is capable of storing electrical charge

which forms part of the wireless detonator assembly; (b) it may include, eg, a capacitation diode, rechargeable battery or activatable battery; and (c) it acts as a VM means. However, as her Honour correctly found at PJ [279], the only examples of charge storage devices given in the 079 Patent would be unable on their own to perform a VM function. Nor is there any explanation of how they could be used together with other parts to perform such a function. Although her Honour held at PJ [281] that the charge storage device is a combination of components working together to store charge and multiply voltage, that finding does not assist since no such combination is provided and no explanation is given of *how* the charge storage device multiplies voltage.

18. The definitions in the 079 Patent refer to charging as a process of supplying electrical power from a power supply to a charge storage device (p 12.4-18). The 079 Patent explains that the charge in the charge storage device may surpass a threshold such that discharging it via a firing circuit causes actuation of a base charge; and the potential difference of electrical energy to charge the device is less than the potential difference of the electrical energy upon its discharge, so the charge storage device functions as a VM means. As noted, however, no explanation is given of *how* it does so.

19. Other aspects of the 079 Patent confirm the centrality of the VM means to the invention. The description notes that wireless communications systems set up new challenges, including new safety issues; that prior art wireless detonators and blasting systems are problematic with regard to inadvertent or accidental detonator actuation; and that prevention of this is of paramount importance (p 16.3-15). It also explains that the charge storage device functions as a VM means to supply a voltage or current to the firing circuit that exceeds the threshold voltage or current for actuation of the base charge (pp 18.28-19.9). Further, the charge storage device (which must perform a VM function: PJ [275]) is itself an integer of the claimed invention: see, eg, claim 1 of the 079 Patent.

20. ***The 165 Patent***. Similar points may be made in relation to the 165 Patent (Pt A Tab 2), which describes and claims a "*wireless electronic booster*". The background provides that wireless blasting systems offer the potential for circumventing problems with wired blasting systems, improving safety at the blast site (p 2.7). It also notes that existing wireless blasting systems present significant safety concerns, and that such systems present technological challenges which remain unresolved (pp 2.18-23, 3.1).

21. The summary of the invention states that, in one aspect, the invention provides a wireless electronic booster comprising a detonator (which itself comprises a firing circuit and a base charge); and an explosive charge, such that actuation of the base charge via the firing circuit causes actuation of the explosive charge; and a transceiver for receiving and

processing at least one wireless command signal being in signal communication with the firing circuit such that upon receipt of a command signal to FIRE the firing circuit causes actuation of said base charge (p 3.5-3.16). Another aspect is a method of establishing and controlling a blasting apparatus at a blast site, comprising the steps of providing each booster at least one wireless command signal to control at least one booster, optionally including at least one wireless command signal to FIRE (pp 3.17-4.5).

22. The 165 Patent includes the same definitions as the 079 Patent, including the definition of "*charge storage device*" addressed in the submissions above (p 7.12-7.20). It similarly does not explain how the charge storage device acts as a VM means.

23. The 165 Patent provides that in preferred embodiments, the detonator includes features that substantially avoid the risk of accidental detonator actuation (p 12.25-27). The safety of the overall system is said to be improved (p 13.1-2). In particular, in one embodiment, the transceiver comprises a charge storage device, and at least one power source to charge the device, capable of supplying a maximum voltage which is less than a threshold voltage to actuate said base charge via said firing circuit. Upon receipt of a signal to FIRE, electrical energy in the charge storage device discharges into the firing circuit, a base charge actuating if a voltage in the firing circuit exceeds said threshold voltage or current (p 15.25). It is apparent from this description that the charge storage device performs a VM function, as is the case in relation to the 079 Patent.

24. The 165 Patent also explains that the booster of the invention may include the use of a wireless detonator assembly that includes a power source for running wireless communications means having insufficient power to trigger base charge actuation via the firing circuit, and a chargeable passive power source connected to the firing circuit, that preferably remains charged upon receipt by the detonator of a "*keep alive*" signal (p 18A.17-20). Again, the 165 Patent does not explain how this works.

25. In addition, as with the 079 Patent, the charge storage device (which must perform a VM function: PJ [275]) is itself a claim integer: see, eg, claim 6 of the 165 Patent.

26. ***Impact on best method conclusion***. It is apparent from the above references that the primary judge erred in failing to find that the VM means and the manner in which it prevents inadvertent activation is central to the inventions in the 079 and 165 Patents, and contributes to the stated advantages of the inventions, including improved safety: eg, at PJ [576], [577], [580]. In the circumstances, that error is sufficient to undermine her Honour's rejection of DNAP's best method case for each patent. That is so whether one has regard to the case which her Honour regarded as pleaded and identified in DNAP's

opening submissions (see PJ [572]-[574]), or the more detailed version of that case identified in DNAP's closing submissions which DNAP contends was also open. These two limbs of DNAP's appeal are addressed in turn below.

B.2 Best method (case accepted to be pleaded) (ANoA [1])

27. ***The primary judge's reasons***. The primary judge's findings on best method appear at PJ [540]-[608]. After addressing some relevant principles (PJ [541]-[543]), her Honour set out her understanding of DNAP's best method case as pleaded and as articulated in DNAP's opening and closing submissions: PJ [544]-[574]. Relevantly, her Honour accepted that DNAP's case in opening submissions "*aligned substantially with the pleaded case*" and thus was open to be run: PJ [569]. Her Honour summarised that case at PJ [570]-[574] and explained why she rejected it at PJ [575]-[607]. This is the subject of ANoA [1] and is addressed in this section B.2 of DNAP's submissions.

28. ***DNAP's case***. As the primary judge accepted, DNAP contended that the failure of the 079 and 165 Patents to disclose any VM means resulted in a failure to meet the best method requirement: PJ [570]. There were two aspects to this, referred to by the primary judge and the parties as the "*no working embodiment case*" and the "*Orica embodiment case*": PJ [550]-[551], [574]. In short, the "*no working embodiment case*" was that no working embodiment of a VM means is described in the patents, in circumstances where the inventors claim to have developed one; the "*Orica embodiment case*" relied on confidential documents produced by Orica which confirm that it had developed such an embodiment, which is not described in the patents: PJ [574(1) and (2)].

29. In this regard, DNAP opened on the case that neither of the 079 and 165 Patents disclosed "*any components to be added to a wireless detonator assembly or wireless electronic booster […] to increase the below threshold voltage or current to the threshold voltage or current required to actuate the base charge*" or "*any means by which the voltage multiplication is to be controlled*": PJ [572(2) and (3)]. DNAP also opened on the case that the "*Orica Documents confirm that, before the filing dates of each of the 079 and 165 patents, the patent applicant … knew of a way of constructing the invention (and had taken the invention to a more satisfactory stage than what is disclosed) … which embodiment is … not described in the 079 and 165 specifications at all, or in such a way as to meet the requirements of s 40(2)(a)*" of the Act: PJ [574(2)].

30. ***Failure to describe the best method***. The evidence (including the specifications of the 079 and 165 Patents themselves and the Orica documents) disclosed that Orica had knowledge of a particular combination of components which worked together to store

electrical energy and multiply voltage, including the VM means Orica used in its commercial embodiment. Accordingly, and contrary to the primary judge's conclusion at PJ [604], Orica was required "*to disclose idiosyncratic features of the VM Means which it has decided to use*", in circumstances where the VM means was plainly material to achieving the advantages it was claimed the inventions would bring.

31. As the cases discussed above show, this is the essence of the best method requirement. It requires a description of the particular features of the best method known to the patent applicant of performing the invention, including the best embodiment, notwithstanding that the invention may be described and claimed in more general terms. Thus, in *Zoetis*, as noted, the particular concentrations of the antigens used in embodiments of the claimed vaccines had to be disclosed, notwithstanding that the invention was defined by reference to specified ranges of antigen concentrations: *Zoetis* at [49]-[53], [54], [57]. Indeed, in some respects, this case involves an even clearer failure to meet the best method requirement than the above authorities. Unlike *Sandvik*, for example, the "*charge storage device*" (which must perform a VM function: PJ [275]) is itself an integer of the claims: see, eg, claim 1 of the 079 Patent and claim 6 of the 165 Patent.

32. In these circumstances, the primary judge ought to have found that the best method requirement was not met, including because there is no disclosure in the 079 or 165 Patents of a "*combination of components working together to store electrical charge and multiply voltage*", or any means by which such a VM function was controlled. Further, there is no disclosure of the VM means Orica had decided to use in its commercial embodiment, including the means by which such VM was controlled. Particular errors made by the primary judge along the way to reaching her conclusion on this aspect of DNAP's best method case are addressed in the following paragraphs.

33. ***Construction, characterisation of inventions***. The primary judge erred at PJ [601(1)] in holding that DNAP's case was premised on an incorrect construction of "*charge storage device*" in the claims of the 079 and 165 Patents or (implicitly) was not consistent with DNAP's construction recorded at PJ [281]. As submitted above, the patents did not explain how the charge storage device performed a VM function.

34. The primary judge also erred in finding that DNAP's case was premised on an incorrect characterisation of the inventions in the 079 and 165 Patents: PJ [576]-[579], [588], [599], [601(2)], [607]; esp [578]. As submitted, each invention is centrally concerned with safety. Contrary to PJ [577], it is no answer to this to suggest that the risk of inadvertent actuation of the base charge is "*achieved by having a power source with sub-*

threshold voltage and requiring a supra-threshold voltage to actuate the base charge, and the use of a charge storage device functioning as a VM": PJ [577]. The patents do not disclose any embodiment in which the charge storage device provides a VM function, much less the particular embodiment known to Orica that did this. Further, the matters referred to by her Honour in this passage did not of themselves eliminate the risk of inadvertent actuation. The evidence indicated that further safety measures such as those described in the confidential Orica documents [redacted] are required: T1074.15-1080.45 (Skafidas); T532.4 (Papillon).

35. In the alternative, even if the primary judge correctly characterised the invention itself, a functioning VM means is nevertheless central to the *performance* of the invention, and material to the advantages it is claimed the invention would bring, and thus had to be disclosed as part of the best method of performing the invention.

36. ***Relevance of CGK or choice of components***. The primary judge also erred in reasoning that the particular VM means known to Orica was a matter of CGK or could otherwise have been implemented as a matter of routine: PJ [577], [583]-[584], [590], [602]-[606]. There was no evidence that that particular VM means was part of the CGK, or that the skilled person would have arrived at it as a matter of routine. But even if this were the case, it would be no answer to the requirement to describe it as part of the best method: *Zoetis* at [29]. Thus in *Servier*, the undisclosed "*classical methods of salification*" used by the patent applicant were two of a number of CGK methods. Similarly, in *Zoetis*, the claims were enabled across their scope, such that the skilled person could produce vaccines having antigens across the claimed ranges: *Zoetis* at [48].

37. The primary judge also erred in finding that the embodiment identified in the Orica documents (including components with a VM function and means by which such VM was controlled) did not need to be disclosed in the 079 and 165 Patents on the basis that it depended upon the choice of other components in the combination as a whole: PJ [580], [590], [603]-[606]. The particular configuration or make up of the best embodiment or method will often involve the making of particular choices within the broader scope of what is claimed. As the authorities demonstrate, the relevant question is whether the particular embodiment is material to the advantages it is claimed the invention brings: *Zoetis* at [16]; *Servier* at [135]; *Sandvik* at [124]. The specific embodiment of the VM means known to Orica disclosed particular features that were so material. That is so, regardless of the fact that it was designed for use with the i-Kon detonator.

38. ***Knowledge of best method***. The primary judge erred in applying an incorrect test to the effect that there "*is no subjective element in the best method requirement*": PJ [571].

Zoetis at [90] says no such thing. Her Honour also erred at PJ [599] and [607] in reasoning that the evidence did not show that Orica knew that the Orica documents reflected the "*best*" embodiment of the invention. Relevantly, DNAP needed to prove that this was the best method known to Orica, not that it was objectively the "*best*" method: *Servier* at [106]. Non-compliance with s 40(2)(a) may be established if one or more methods were known to the applicant which were better than any disclosed in the relevant specification. That was so here, where no specific embodiment was relevantly disclosed. The facts in *Zoetis* are another example of that scenario.

39. The primary judge's rejection of DNAP's case in relation to Orica's knowledge at PJ [599] appeared to turn upon her Honour's view that DNAP's characterisation of the inventions was incorrect. This has been addressed above. It was her Honour who mischaracterised the nature of the inventions as being concerned, or concerned only, with the "*architecture*" of the claimed features, and not with "*how the VM works*" or directed to "*specific VM means*": PJ [576]-[580]. As her Honour noted, Orica properly conceded that it had knowledge of the contents of the Orica documents: PJ [599].

40. ***Evidentiary matters***. The primary judge erred in finding that DNAP's case depended upon evidence given by Mr Boucher concerning the confidential Orica documents that was undermined by the matters identified by her Honour as to his understanding of the CGK (PJ [564]-[565], apparently referring back to PJ [101]-[106]), or that he relied on US law (see PJ [565]). Read in context, in the evidence referred to at PJ [566], Mr Boucher was explaining that the patents did not explain how to make a VM means. Her Honour also found that the evidence given by Mr Boucher was undermined because his evidence was vague and speculative: PJ [567]-[568]. This criticism is misplaced. Orica's responsive evidence demonstrated that design choices were required and the 079 and 165 Patents do not disclose the choices made: Conf Ann SS3 at [95], [99].

41. The primary judge also erred at PJ [601] in relying on the criticisms of Mr Boucher's evidence at PJ [51]-[55] to reduce the weight given to his evidence as to best method. Mr Boucher correctly emphasised safety in the 079 and 165 Patents: cf PJ [601(2)]. Although his interpretation differed from that of the primary judge in relation to the "*charge storage device*", that does not detract from the conclusion that the patents do not disclose how the VM worked: cf PJ [601(1)]. Nor did any misunderstanding of CGK, or the criticism that he is too inventive, affect Mr Boucher's analysis: cf PJ [51]-[54], [601(3)]). This conclusion was also supported by Mr Skafidas: see Skafidas [58(a)].

42. The primary judge erred at PJ [568] in failing to draw a *Jones v Dunkel* inference ((1959) 101 CLR 298 at 308, 311-312, 321) from the fact that Orica chose not to adduce evidence

concerning the confidential Orica documents from the named inventors or authors of the documents; or, in the case of Mr Papillon, a *Commercial Union Assurance Co of Australia Ltd v Ferrcom Pty Ltd* inference ((1991) 22 NSWLR 389 at 418), noting that Mr Papillon had experience with detonators before the priority date: cf PJ [74]-[75], [83]. The example at paragraph 46 below (and at T1072.16-19) shows that Prof Skafidas' inexperience with detonator circuits materially affected his evidence.

B.3 Best method (case in closing submissions) (ANoA [2]-[3])

43. Further or alternatively to section B.2 above, the primary judge erred in finding that it was not open to DNAP to advance certain aspects of its best method case identified in its closing submissions, and in rejecting those aspects of the case on that basis.

44. In particular, the primary judge erred in holding that the best method case identified in DNAP's closing submissions had not been pleaded or particularised, either at all or with adequate particularity, and that it would be contrary to the interests of justice to permit it to succeed: PJ [555]-[561], [570], [574], [587]. Each of the matters recorded at PJ [556] were identified in the evidence of Mr Boucher at CJB-27 and borne out in CJB-26. Her Honour also erred in proceeding on the basis that Orica's understanding of the best method case was relevant to whether it had been adequately pleaded or particularised: PJ [554], [561]. Further, Orica did not identify any matter in respect of which it was prejudiced by having lost the opportunity to adduce evidence: PJ [553], [554], [558], [561]. In this respect, her Honour erred in failing to give weight to the fact that Orica had the opportunity to file evidence in answer to Mr Boucher's evidence: Skafidas 18 July 2024 and Conf Ann SS-3.

45. More particularly, the primary judge erred in failing to find that the best method of performing the invention known to the patent applicant at the relevant time included [redacted].

46. The primary judge erred in failing to find at PJ [588]-[589] that [redacted]. In this regard, her Honour erred in failing to have

regard to the context in which Mr Papillon's evidence at PJ [588] was given. In the exchange at T530.36-532.11, Mr Papillon agreed that a separately controllable VM means provides an extra level of safety. Her Honour also erred in failing to give sufficient weight to Orica's concession at T1072.16-19 that a core assumption underlying Professor Skafidas' evidence concerning the Orica documents [redacted] was incorrect [redacted].

47. Additionally, as submitted in paragraph 36 above, contrary to the reasoning in PJ [577], [583]-[584], [590] and [602]-[606], there was no evidence that the particular VM means used by Orica was part of the CGK, or that the skilled person would have arrived at it as a matter of routine. [redacted]

48. Accordingly, the case in DNAP's closing submissions further demonstrated that each of the 079 and 165 Patents did not meet the best method requirement.

C. 873 PATENT

C.1 Overview and construction issues (ANoA [4]-[5], [11])

49. ***Introduction***. DNAP appeals against the primary judge's findings that the 873 Patent was novel in light of the **Rothenbuhler** patent (Pt A Tab 8) and involved an inventive step in light of the CGK alone. Both grounds turn upon errors by her Honour in relation to the following construction issues: (1) the construction of the terms "*wireless initiation device*" (**WID**) and "*wireless electronic booster*" (**WEB**); and (2) whether the claims are limited to methods including the use of electronic detonators (**ED**).

50. ***Construction of "wireless initiation device"***. The 873 Patent (Pt A Tab 3) is concerned with the selective wireless detonation of charges and means for achieving the same. All of the claims require a WID, which the primary judge found must include a detonator (PJ [852]). In arriving at that conclusion, her Honour erroneously reasoned as follows. *First,* despite experts from both sides agreeing that the WID did not include a detonator, "*their reasons for this conclusion were sparse and appear to be focused on the words used in the definition only*" (PJ [828]). *Secondly,* her Honour reasoned that the phrase WID includes within it the word "*wireless*", and the definition of that word (on its own)

in the 873 Patent "*requires there to be no connection between the detonator of the invention or its components and an associated blasting machine or power source*" (PJ [833]-[834]). *Thirdly,* her Honour reasoned that the WID receives a wireless command signal, the source of that signal must be from a blasting machine, and "*blasting machine*" is defined as being a device which is capable of being in signal connection with electronic detonators (PJ [835(2)]). *Finally,* her Honour reasoned that, if the WID includes a detonator, it is the WID *itself* that will initiate, ignite or trigger explosive materials, which is what the definition of WID requires (PJ [836]).

51. On the proper construction of the 873 Patent, the WID need not include a detonator. WID is defined as: "*any device and associated components that achieve initiation of an associated base charge via receipt of wireless command signals. Such devices* ***typically include*** *detonators or detonator assemblies, optionally comprising one or more top-boxes, power sources, associated antennae etc*" (emphasis added) (pp 12.31-13.2). The experts agreed that, on the definition provided, the WID did not necessarily include a detonator (PJ [828]). While a Court is not bound by a conclusion reached by the experts, the primary judge was wrong to dismiss that conclusion in this case. Where a specification provides an internal lexicon for words used in the claims, it is generally not necessary for the experts, or the Court, to look any further in understanding those words: ***Decor*** *Corporation Pty Ltd v Dart Industries Inc* (1988) 13 IPR 385 at 410-411. The definition of WID expressly provides that a WID need not include a detonator – it is not appropriate to go beyond that conclusion. Moreover, other passages in the 873 Patent expressly contemplate that WIDs may not contain a detonator: eg, p 19.24-25.

52. The primary judge wrongly went beyond that conclusion and considered the definition of "*wireless*" in isolation to disregard the definition of "*wireless initiation device".* Her Honour also wrongly considered in her analysis the definition of "*blasting machine*", a term not used in the claims. Finally, her Honour was also wrong to require that the WID *itself* initiate the explosive materials. The definition of WID in the 873 Patent requires the WID *to "****achieve initiation*** *of an associated base charge*" (emphasis added); how that is achieved (eg, whether directly or indirectly) is not prescribed.

53. The primary judge also referred to the "*theme of control of detonators and detonator assemblies via wireless communication*" in the 873 Patent as support for her construction (see PJ [830]-[833]). It is true that the specification includes embodiments in which a wireless device includes a detonator – for example the definition of "*Wireless electronic delay detonator*" on p 12.27-30. However, this supports DNAP's construction. The

patentee chose not to refer to a "*wireless detonator*" in its claims. It elected to claim a broader monopoly using the term WID which, as defined, captures **any** device that can achieve initiation of a base charge, whether or not it includes a detonator.

54. ***Construction of "wireless electronic booster"***. Claim 15 of the 873 Patent is the only claim that refers to a WEB. It is directed to the method of claim 1 "*wherein each wireless initiation device forms part of a wireless electronic booster comprising an explosive charge.*" At PJ [887], the primary judge reasoned that, given her construction of claim 1, the WID which forms part of the booster must contain an electronic detonator. For the reasons given above, her Honour erred in construing the term WID in this respect.

55. As the primary judge correctly observed, the WID forms part of the WEB. While the WEB may include a detonator, nothing in the specification requires that the WID within the WEB must contain a detonator. The definition of WEB (p 5.1-13) defines the term by reference to its function (it must be capable of receiving wireless command signals from an associated blasting machine and in response to appropriate signals, cause actuation of an explosive charge that forms an integral component of the booster). It does not prescribe any particular arrangement of its individual components.

56. Finally, the primary judge erred at PJ [888] in concluding that the "*the PSA would not understand that the wireless initiation device would include a detonator assembly because, if it did, it would not fit within the booster*". *First*, that finding does not correspond with the definition of WEB, which places no limitation on the arrangement of the components of the WEB, including whether it is a discrete device or an assembly of components. *Secondly,* the finding disregards the evidence of Mr Papillon (who had specialist knowledge and experience in developing detonators: PJ [74]). He accepted that the person skilled in the relevant art would understand that the WEB is not limited to a discrete device (T1337.9-17). Her Honour's finding appears to be based on the evidence of Mr Jacobson at (T1370.29-1375.18), who acknowledged that he was not an expert in detonators (T1191.1-1191.31, T1263.35-39). In the circumstances, her Honour erred in relying on Mr Jacobson's evidence in relation to this issue.

57. ***Whether the claims are limited to electronic detonators***. The primary judge found at PJ [854] that "*the detonator in the wireless initiation device is confined to an ED*". DNAP's case is that, for the reasons set out above, the WID need not include a detonator. In any event, the claims are broad enough to encompass methods involving both electronic and non-electronic detonators (including electric and non-electric detonators).

Her Honour's reasoning, which is limited to a scant paragraph at PJ [854], is that because the definition of "*wireless*" refers to a connection between a detonator and a blasting machine and the definition of blasting machine is "*in almost identical terms to the definitions in the 079 and 165 patents … for the same reasons as applied in the 079 and 165 patents, the detonator in the wireless initiation device is confined to an ED.*"

58. The primary judge's reasoning in relation to the 079 and 165 Patents appears at PJ [241]-[249]. In those paragraphs, her Honour reasoned that the claims of the 079 Patent refer to a "*wireless detonator assembly*" which "*must be capable of receiving signals from an associated blasting machine*" (PJ [242]). The definition of "*blasting machine*" refers to any device that is "*capable of being in signal communication with electronic detonators*". Her Honour found that, "*critically, it was CGK that blasting machines for EDs cannot be used with electric or non-electric detonators*" (PJ [243]): if a blasting machine is *capable* of being in signal communication with an ED, it *cannot* be used with electric or non-electric detonators (PJ [244]); and "*[i]f the wireless detonator assembly must be capable of receiving signals from an associated blasting machine…and that blasting machine cannot be used with electric or non-electric detonators, then it follows that the detonator in the wireless detonator assembly is an ED*" (PJ [245]).

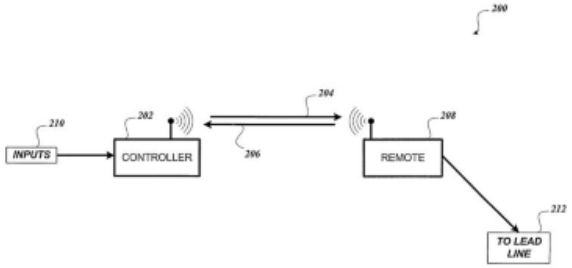
59. This approach was in error. In particular, it was wrong for the primary judge simply to apply her reasoning from the 079 and 165 Patents to construe the 873 Patent. The claims of the 873 Patent refer to a WID, not to a "*wireless detonator assembly*". Unlike the definition of "*wireless detonator assembly*", the definition of WID does not refer to a blasting machine. While her Honour had regard at PJ [854] to the definition of "*wireless*" in the 873 Patent to capture the blasting machine, there was no need to do so to construe WID. Any CGK as to the ability to use a blasting machine for EDs with other detonators is not relevant. Additionally, the claims of the 873 Patent are agnostic as to the identity of the detonator. The specification makes it clear where it refers specifically to an electronic detonator (see the definitions of "*wireless electronic delay detonator*" at p 12-27-30 and of "*Wireless detonator assembly*" at p 11.31-32).

C.2 Novelty (ANoA [4])

60. ***Overview***. The primary judge erred in finding that the invention in each of claims 1, 2, 3, 4, 6, 11 and 16 of the 873 Patent was novel in light of Rothenbuhler.

61. Rothenbuhler (Pt A Tab 8) discloses a "*Remote Firing System*". Figure 2A (reproduced at PJ [893]) provides a simple depiction of the disclosure:

Fig.2A.



62. That figure is described as "*FIGURE 2A illustrates the constituent parts of a remote firing system 200 that include a* ***remote device 208*** *and a* ***controller device 202*** *that interoperate to provide safety communication in accordance with one embodiment of the present invention. The inputs 210 may include for example, user commands or safety interlock device signals. The* ***remote device 208 is coupled to a lead line 212 to transmit a signal that initiates a detonator***" (emphasis added) (p 6.8-13).

63. ***Claim 1***. The primary judge found that Rothenbuhler does not disclose a WID, such that none of the other integers of claim 1 are disclosed (PJ [915]). Her Honour gave three reasons for this conclusion: (1) the remote unit in Rothenbuhler does not itself initiate the explosive materials, because that work is done by the detonator (PJ [900]); (2) the remote is connected to the detonator by a wire (PJ [901]); and (3) the remote does not contain a detonator or components of a detonator: instead the controller and remote together act as a two part blasting machine (PJ [902]-[906]).

64. DNAP submits that Rothenbuhler discloses a WID – either the remote unit alone, or the remote together with the attached detonator. Both options result in anticipation of claim 1. For the reasons given above, the WID in the 873 Patent need not include a detonator, and the remote alone fits within the definition of WID – the remote is a device which achieves initiation of an associated base charge via receipt of wireless command signals. If, contrary to that construction, the WID must include a detonator, that is also satisfied by Rothenbuhler because the remote is connected to a detonator. Both alternatives were open on DNAP's case below, at least until oral closing submissions. DNAP accepts that, in oral closing submissions, it contended that in Rothenbuhler the WID was the remote together with the detonator and accordingly narrowed its case (T1845.4-7). However, as Orica's written submissions below reveal, Orica addressed DNAP's case on the basis that the WID was the remote alone (Orica's closing submissions at [25.14]). Accordingly, there is no prejudice in DNAP pursuing both alternatives on appeal – noting, in any event, that this is ultimately an issue of construction of the 873 Patent.

65. As to the primary judge's reasoning on (1) above, if the WID is the remote, that finding is wrong because there is no requirement for the WID itself to initiate the explosive materials. If the WID is the remote and the detonator, that finding is inapplicable because the WID (ie, the detonator component) does initiate the explosive materials.

66. As to (2), on either formulation, it was wrong for the primary judge to place reliance on the definition of "*wireless*" in circumstances where the term "*wireless initiation device*" is defined. In any event, if the WID is the remote, that device is wireless in that it receives wireless command signals as required. If the WID is the remote and the detonator, that assembly has no external wires and is wireless within the definition of WID.

67. As to (3), the primary judge erred in relying on evidence that the controller and remote together "*perform the functions of a blasting machine remotely*" (PJ [903]). The relevant enquiry in a novelty analysis is whether the integers of the claims are disclosed. A blasting machine is not an integer of the claims. It is therefore not relevant to enquire which components in Rothenbuhler perform the functions of a blasting machine. The 873 Patent concerns selective control of WIDs. The relevant enquiry is whether Rothenbuhler discloses a component which meets the definition of a WID. DNAP submits that it does – either the remote or the remote plus the detonator.

68. At PJ [904] the primary judge also stated that "*the Rothenbuhler patent discloses the use of the controller and remote device with electric or shock tube detonators (see page 4 lines 19-20), but not EDs.*" To the extent that her Honour relied on this as a further reason why Rothenbuhler did not anticipate the relevant claims, that was an error. As submitted, the claims of the 873 Patent are not limited to electronic detonators.

69. ***Claim 2***. As claim 2 depends on claim 1, the primary judge erred in applying her conclusions on claim 1 for the same reasons. Her Honour further concluded that claim 2 was not anticipated because it requires a "*group identification component*". The definition of that term includes the words "*blasting machine*". The definition of "*blasting machine*" requires EDs and so Rothenbuhler does not disclose a "*blasting machine*" (PJ [919]). From that conclusion her Honour reasoned that there is no "*group identification component*" (PJ [919]), no control circuit for comparing this with a stored component (PJ [920]) and no wireless command signals (because wireless command signals comprise a group identification component sent by a blasting machine (PJ [921])).

70. That analysis does not withstand scrutiny. A blasting machine is not an integer of the claims. The claims on their face, read in light of the specification as a whole, are not

limited to electronic detonators. The person skilled in the art would not introduce such a limitation into the claims by virtue of a definition of a term which appears within the definition of another term. While the claims are to be construed in the context of the specification as a whole, it is not legitimate to narrow or expand the boundaries of monopoly fixed by the words of a claim by adding to those words glosses drawn from other parts of the specification: *Kimberly-Clark Australia Pty Ltd v Arico Trading International Pty Ltd* (2001) 207 CLR 1 at [15]. *Decor* does not require a term defined in a specification to be applied in every context: *Gambro Pty Ltd v Fresenius Medical Care South East Asia Pty Ltd* (2004) 61 IPR 442 at [115]-[116]. A definition should not be applied where the context indicates otherwise: *Memcor Australia Pty Ltd v GE Betzdearborn Canada Company* (2009) 81 IPR 315 at [56]-[64]; (2009) 84 IPR 1 at [34]-[35]. Further, it is always necessary to construe the specification as a whole, putting aside passages which are in truth only loose or stray remarks: *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd* (2004) 217 CLR 274 at [69].

71. ***Claims 3, 4, 6, 11 and 16***. The primary judge's conclusion on these claims fell directly from her conclusion on claims 1 and 2 (PJ [930]; [935]; [939]; [943]), and her Honour erred in relation to these claims for the same reasons as set out above.

C.3 Inventive step (ANoA [5])

72. The finding at PJ [969] that the evidence failed to establish lack of inventive step arises directly from the primary judge's construction of the 873 Patent. Once it is accepted that, on the proper construction of the claims, a WID need not include a detonator and the claims are not limited to electronic detonators, it follows that all of the claims of the 873 Patent are invalid in light of the CGK alone. The experts agreed that if a WID need not include a detonator, the features of claim 1 and 2 were part of the CGK: joint expert report for the 873 Patent (**873 JER** [23]); PJ [802]. None of the additional integers of dependent claims 3-16 are sufficient to confer an inventive step.

73. Even if a WID must include a detonator, the claims of the 873 Patent were still obvious. At PJ [965], referring to [187]-[213] and [797]-[809] the primary judge incorrectly found that the device the subject of Rothenbuhler (the **1670 model**) was not CGK. That finding contradicts the express agreement of the experts in the 873 JER at [3e] that the person skilled in the art would have known and understood the contents of Jacobson 1, [27]-[33]. Those paragraphs provide a summary of the 1670 model (see in particular [32(d)]). Once it is accepted that the device the subject of the Rothenbuhler patent was CGK, given

that device includes a detonator, it follows that even if a WID must include a detonator, the features of claims 1, 2, 3, 4, 6, 11 and 16 were CGK. Again, none of the additional integers of the balance of the claims are sufficient to confer an inventive step.

D. 943 PATENT

D.1 Overview and construction issues (ANoA [6]-[10])

74. ***Introduction***. DNAP's appeal relies on two grounds of challenge to the 943 Patent: manner of manufacture and inventive step. These turn upon the proper construction of the 943 Patent and, in the former case, upon the proper application of the principles for the assessment of whether the specification, on its face, including any documents incorporated by reference, discloses a patentable invention. DNAP respectfully submits that the primary judge erred in her reasoning on these issues.

75. The 943 Patent (Pt A Tab 4) claims a method of blasting rock at an underground blast site. In essence, the method employs a "*non-linear*" blasting sequence, in which charges are set but then detonated separately in a series of two or more initiation events. The effect of this is to leave intact a pre-charged portion of the rock mass (referred to as a "*stranded portion of the rock mass*": 943 Patent p 12.9-18) after the first initiation event, which is then blasted in a subsequent initiation event. This may be contrasted with what the primary judge described as a "*linear*" blasting sequence, in which charges are set and then detonated in a single initiation event, this sequence then being repeated in order to avoid the risk of isolating valuable ore: PJ [1132], [1134]-[1136].

76. In summary, DNAP submits that the primary judge failed properly to assess whether the 943 Patent discloses a patentable invention consistently with the principles laid out in *Commissioner of Patents v* ***Microcell*** *Limited* (1959) 102 CLR 232*, NV* ***Philips*** *Gloeilampenfabrieken v Mirabella International Pty Ltd* (1995) 183 CLR 655 and ***Merck*** *& Co Inc v Arrow Pharmaceuticals Ltd* (2006) 154 FCR 31, by comparing the invention claimed with the information disclosed on the face of the specification as part of the background to, or as preceding, the invention itself. This included the information in earlier patent documents incorporated by reference into the specification of the 943 Patent, including international patent application WO2010/085837 (**WO837**), the contents of which are substantially identical with the 873 Patent: PJ [1187].

77. Importantly, for both manner of manufacture and inventive step, it is necessary to assess whether the invention is patentable in light of the specification as a whole and the CGK: s 18(1); *D'Arcy v* ***Myriad*** *Genetics Inc* (2015) 258 CLR 334 at [12], [39], [87]-[95], [145] (in relation to manner of manufacture); s 7(2) (in relation to inventive step). The

specification of the 943 Patent does not address the regulatory constraints associated with pre-charging that were referred to by the experts and relied on by the primary judge at PJ [1149]. Nor did the CGK, on her Honour's findings at PJ [1151]-[1152]. There is no dispute that, despite these regulatory constraints, the disclosure given in the 943 Patent is sufficient for the purposes of s 40(2)(a) of the Act. Thus the invention, as disclosed and claimed, is one that is directed to the *concept* of deploying non-linear methods of blasting (ie, pre-charging in combination with the selective detonation of those charges in two or more initiation events), regardless of whether this was permitted by regulation or was suitable for a particular mine given these regulatory constraints.

78. ***Construction issues***. The primary judge's analysis proceeded on the basis of errors of construction of key terms used in the 943 Patent. In this regard, her Honour held that the terms "*wireless detonator assembly*" (and the anterior term "*blasting machine*"), "*top-box*" and "*wireless electronic booster*" as used in the 943 Patent should be given the same meanings as her Honour had given to those terms in the 079 and 165 Patents: see, eg, PJ [1245], [1273], [1286]. DNAP respectfully submits that her Honour erred in doing so, for the reasons given in ANoA [8]-[10]. In particular, the effect of her Honour's reasoning was to disregard definitions of the terms "*wireless detonator assembly*", "*blasting machine*" and "*wireless electronic booster*" in the 943 Patent, which make it clear that the invention asserted is not limited to use in connection with electronic detonators. See also claim 1 of the 943 Patent which, unlike claim 2, is not so limited. (Similar issues arise in relation to her Honour's treatment of the corresponding terms used in the 079 and 165 Patents. These issues are not material to DNAP's best method case, and so are noted here rather being raised in section B above.)

79. The primary judge also erred in narrowly confining the field and the conception of the notional person skilled in the relevant art for the 943 Patent, and thus the CGK to be attributed to that person. In particular, her Honour wrongly excluded knowledge of caving methods relevant to underground mining, despite finding that the claims of the 943 Patent "*include caving methods within their scope*": PJ [1080]. It is well-established that the patentability of an invention is to be considered having regard to the full scope of the claims: see the Act, s 18(1) ("*so far as claimed in any claim*"). This error of construction is particularly relevant to the ground of inventive step.

80. Finally, it is necessary to have regard to the breadth of the definition in the 943 Patent of "*stranded portion of the rock mass*", which extends to "*any portion of the rock mass or ore that is 'left behind', or which will be 'left behind', at an underground location during a blasting process*" for a range of broadly defined reasons, including because it is

physically inaccessible, potentially dangerous to access or may be required to remain to maintain structural integrity of the site: 943 Patent, p 12.9-18. As the definition makes clear, "*left behind*" is merely a temporary state of affairs, in that the stranded portion is blasted in a subsequent initiation event(s): 943 Patent, p 12.17-18. The breadth of the definition is further borne out by the discussion at pp 16.1-17. 29 of the 943 Patent, which makes it clear that the layers shown as items 16 and 17 in Figure 1b are a stranded portion of the rock mass in circumstances where layer 18, above them, is blasted first.

D.2 Manner of manufacture (ANoA [6])

81. It is well-established that, in considering whether a claimed invention is a manner of manufacture, it is necessary to characterise the invention as a matter of substance, not merely as a matter of form: see, eg, *Myriad* at [12], [39], [87]-[94], [144]-[145]; *Aristocrat Technologies Australia Pty Ltd v Commissioner of Patents* (2022) 274 CLR 115 at [73], [102]. This involves construing the claims in light of the specification as a whole and the relevant prior art, including in this case the CGK. The decisions in *Microcell*, *Philips* and *Merck* provide particular examples of cases in which it has been held, by comparing the invention claimed with the information disclosed on the face of the specification itself, that no manner of manufacture is disclosed.

82. The primary judge erred in failing to find that the invention claimed in each of claims 1 to 21 of the 943 Patent is not a manner of manufacture within the meaning of s 6 of the *Statute of Monopolies* by reason that the 943 Patent does not disclose an invention on the face of the specification: PJ [1243]. The 943 Patent states on p 15.15-20:

> *In selected embodiments, the invention disclosed herein extend previous advancements in the art relating to the selective control of detonators or detonator assemblies in groups. For example, WO2010/085837* [WO837] *and its corresponding United States patent application US2010/0212527 published 26 August 2010, which is incorporated herein by reference, discloses examples of methods that are suited to selective control of detonators in groups.*

83. Orica correctly admitted, without qualification, that WO837 was incorporated by reference into the 943 Patent, and that the specification of WO837 is "*substantially identical to the body of the specification of the 873 patent*" save for claim 16 of the 873 Patent (which is of no consequence for present purposes): PJ [1186]-[1187].

84. At PJ [1192], the primary judge criticised DNAP for proceeding on the basis that everything in the 873 Patent is admitted to be "*known*". However, as a prior patent

document incorporated by reference into the 943 Patent, the contents of the 873 Patent are to be treated as "*known*" in the sense in which that term is used in *Merck* and the other authorities cited above (save for claim 16 of the 873 Patent, given PJ [1187]). In this regard, as set out above, the 943 Patent expressly characterises WO837 as disclosing "*previous advancements in the art*" which are said to be extended by the invention disclosed and claimed in the 943 Patent: 943 Patent, p 15.15-20.

85. The primary judge erred in finding that the relevant test for "*known*" in this context is "*well known and well understood*": PJ [1193]. ***Danisco*** *A/S v Novozymes A/S (No 2)* (2011) 91 IPR 209 at [372]-[374] does not stand for that proposition. Nor does *Microcell* at 250-251, which did not relate to the status of prior art incorporated by reference. Indeed, properly understood, *Danisco* supports the argument advanced by DNAP on this ground. As Bennett J correctly accepted at [355], "*the question is whether a manner of new manufacture appears on the face of the specification properly construed*", citing *NRDC*, *Philips* and *Merck*. Further, her Honour's analysis confirms that information in a prior specification referred to and incorporated by reference in the specification in suit is available for consideration as part of the information against which the invention is to be assessed, even if that prior specification was not published or not shown or admitted to be part of the CGK: see the discussion at [375], and note at [373] that her Honour accepted that the specification in suit on its face did not disclose or claim a new enzyme (because it acknowledged that the enzyme was disclosed in the document incorporated by reference, being the Poulsen priority application).

86. The decision of the Full Court in *Novozymes A/S v Danisco A/S* (2013) 99 IPR 417 turned upon the proposition that not all of the information relied on by the appellants for their manner of manufacture argument was disclosed on the face of the specification. The Full Court's reasoning accepts that the contents of the Poulsen priority application were available for consideration as part of the information against which the invention had to be assessed for this purpose: see, eg, [215]-[221] per Jessup J.

87. Similarly, ***Otsuka*** *Pharmaceutical Co Ltd v Generic Health Pty Ltd (No 4)* (2015) 113 IPR 191, relied on at PJ [1194]-[1195], does not support the proposition. It involved an argument that combined the disclosure of the prior art with the CGK: see [351]-[354]. Yates J's rejection of the manner of manufacture ground related to the fact that the prior art did not disclose particular integers of the claim. Further, Yates J concluded that the passages which referred to the prior art in *Otsuka* did not incorporate the entire prior art by reference: [365]-[368]. *Otsuka* can be distinguished on that basis.

88. Contrary to PJ [1197], this is a case like *Merck*, in which the incorporation by reference amounts to an admission that the content of the incorporated prior art is "*known*", in the sense of constituting information against which the alleged invention to be compared for the purpose of assessing whether it constitutes a patentable invention. The primary judge ought to have applied *Merck* and found that when the notional skilled person compares the 943 Patent with the information in WO837, the 943 Patent does not disclose a new substance, or a new characteristic, or a new use or a new method.

89. As outlined in section C.1, the 873 Patent (Pt A Tab 3), and thus WO837, is concerned with the selective wireless detonation of charges and means for achieving the same. It discloses, as part of its background, pre-charging involving wired systems, and wireless systems generally: 873 Patent, pp 1-2. It discloses methods of blasting involving pre-charging and selective control of wireless detonator devices, including wireless detonator assemblies and wireless electronic boosters, and including in underground mining: 873 Patent, pp 5, 11-12, 31-33. Employing pre-charging in combination with the selective control of detonators in underground mining inherently involves a non-linear method of blasting of the kind claimed in the 943 Patent, considered as a matter of substance, not form: the effect of selectively detonating some charges before others is to leave behind a pre-charged portion of the rock mass after the first initiation event (ie, a "*stranded portion of the rock mass*") which is then blasted in a subsequent event.

90. In particular, Example 5 of the 873 Patent employs pre-charging in combination with the selective control of detonators, and involves a non-linear method of blasting of the kind claimed in the 943 Patent. It is expressly said to apply to underground blasts at p 33 line 20. It discloses selective detonation first of a rock overburden (30), which is thrown towards a free face before a recoverable mineral seam (31) is fragmented in a second blast. The experts agreed that recoverable mineral seam (31) is a stranded portion, as it would be physically inaccessible, and the blasting of (30) would create unsupported ground: T1705.6-1706.40; T1707.6-9 (Dunstan and Grace), which overtook Mr Grace's response in the joint expert report for the 943 Patent (**943 JER**) 7G. The experts also agreed that Example 6 would fall within the claim if there was valuable ore in the shaft, which was possible: T1708.20-1709.36; and see also the 943 JER 7H.

91. On this basis, the primary judge ought to have found at PJ [1190]-[1206] that the 943 Patent did not involve an advance over the information disclosed on the face of the specification as part of the background to, or as preceding, the invention itself, including the matters disclosed in WO837. In particular, her Honour ought to have found that the

873 Patent (and thus WO837) discloses methods of blasting including each feature of each of claims 1 to 8 and 21 of the 943 Patent, involving pre-charging with and selective control of wireless detonator devices (including wireless detonator assemblies and wireless electronic boosters). Her Honour also ought to have found that dependent claims 9 to 20 of the 943 Patent merely add further features that were CGK and are not asserted in the 943 Patent to be new, such that none of those claims is to a new or inventive combination of features or method on the face of the 943 Patent.

92. Orica raises certain additional issues in ground 7 of its notice of contention (Pt A Tab 19). Ground 7(a) is answered by the above submissions as to the disclosure of the 873 Patent and WO837. Ground 7(b) is misplaced, including because s 24(1) of the Act is directed in terms only to novelty and inventive/innovative step. The question of manner of manufacture turns upon an assessment of the specification of the 943 Patent, including any documents incorporated by reference. It does not involve a comparison with the prior art base for the purposes of novelty or inventive/innovative step.

D.3 Inventive step (ANoA [7])

93. The primary judge erred in failing to find that the effect of the experts' agreement in the 943 JER, which was undisturbed in cross-examination, was that the subject matter of claims 1, 2, 6, 7, 8, 9, 10, 12, 13, 14, 28, 19 and 20 of the 943 Patent was CGK.

94. The experts agreed that pre-loading is a blasting technique that the skilled person would have known and used, subject to the unique requirements of the mine, at the relevant date (943 JER 3B; 3C); and that pre-charging is a concept the skilled person would have heard of at the relevant date, although there were significant regulatory restrictions associated with pre-charging and implementation would have been difficult (943 JER 3C). It is plain from the answer to this question in the 943 JER that people involved in cave mining methods, in particular, were likely to be familiar with the concept of pre-charging.

95. Unsurprisingly, the experts were not familiar with the expression "*stranded portion of the rock mass*" as it is used in the 943 Patent (943 JER 4A). However, the breadth of the definition of that term in the 943 must be borne in mind: paragraph 80 above.

96. As submitted in paragraph 77 above, the invention, as disclosed and claimed, is one that is directed to the concept of deploying non-linear methods of blasting (ie, pre-charging in combination with selective detonation), regardless of whether this was permitted by regulation, or was suitable for a particular mine. Accordingly, it is enough to prove lack of inventive step if the PSA could conceive of a method of blasting within the claims,

notwithstanding these regulatory and practical issues. In this regard, none of these suggested difficulties are overcome by the invention: see *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 235 CLR 173 at [52]. As a result, they should not be taken into account when assessing inventive step.

97. Further, the experts agreed that most of the integers of claim 1 of the 943 Patent were known (943 JER 5A). In particular, the experts agreed that it was known that it was possible to conduct a sequence of at least two initiation events to blast the rock mass, by sending firing signals to only the detonators associated with said charges and in which each initiation event is a discrete user controlled event, although regulatory constraints would not have allowed detonators to be left in a hole and not fired until a second event, and execution would be very limited in the industry (943 JER 5B).

98. As to the requirements that one of the two or more initiation events created a stranded portion of the rock mass, and that the stranded portion of the rock mass is blasted in a subsequent initiation event without personnel accessing the stranded portion, the experts considered that the phrase "*stranded portion of the rock mass*" was not typically used in this manner in the CGK. However, given the experts' concessions as to what was known about pre-charging, it is apparent that the CGK included knowledge that it was possible to adopt the method of each of claims 1, 2, 6, 7, 8, 9, 10, 12, 13, 14, 28, 19 and 20 of the 943 Patent. The primary judge was wrong at PJ [1254]-[1256] to conclude that the method of each of these claims was not obvious in light of the CGK.

E. CONCLUSION

99. For the above reasons, the appeal should be allowed. The Court should find that all four patents are invalid. It follows that DNAP's challenges to the primary judge's rejection of its unjustified threats case (ANoA [12]) and her Honour's findings that DNAP infringed the 079, 165 and 943 Patents (ANoA [13]) should also be set aside.

C Dimitriadis, C Cunliffe, A Surkis
Counsel for DNAP

MinterEllison
Solicitors for DNAP

24 February 2026

NOTICE OF FILING

Details of Filing

Document Lodged:	Outline of Submissions
Court of Filing	FEDERAL COURT OF AUSTRALIA (FCA)
Date of Lodgment:	24/02/2026 4:13:56 PM AEDT
Date Accepted for Filing:	24/02/2026 4:14:01 PM AEDT
File Number:	NSD1484/2025
File Title:	DYNO NOBEL ASIA PACIFIC PTY LTD ACN 003 269 010 v ORICA EXPLOSIVES TECHNOLOGY PTY LTD ACN 075 659 353 & ORS
Registry:	NEW SOUTH WALES REGISTRY - FEDERAL COURT OF AUSTRALIA

Registrar

Important Information

This Notice has been inserted as the first page of the document which has been accepted for electronic filing. It is now taken to be part of that document for the purposes of the proceeding in the Court and contains important information for all parties to that proceeding. It must be included in the document served on each of those parties.

The date of the filing of the document is determined pursuant to the Court's Rules.