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Document Lodged:	Outline of Submissions
Court of Filing	FEDERAL COURT OF AUSTRALIA (FCA)
Date of Lodgment:	24/02/2026 4:18:59 PM AEDT
Date Accepted for Filing:	24/02/2026 4:19:13 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

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Dyno Nobel Asia Pacific Pty Ltd v Orica Explosives Technology Pty Ltd & Ors

NSD 1484/2025

Orica's Outline of Submissions in Chief on the Notice of Cross-appeal

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Information in red text contains confidential information the subject of suppression orders. Transcript references in red text refer to evidence given in closed court.

CONFIDENTIAL TEXT IN RED

A. Ground 1: 873 Patent – infringement of claim 1

1. Australian Patent No. 2010207873 (**873 Patent**) is entitled "*Selective control of wireless initiation devices at a blast site*" and claims methods of controlling detonators and detonator assemblies used in mining via wireless communication.[1] Claim 1 is set out at PJ [821]. At the heart of this patent is the ability to place multiple wireless detonators within a mine and detonate a chosen subset ("*a predetermined group… within a plurality*") of those detonators in answer to a command. The balance of the "*plurality*" will not detonate on that command.

2. There appears to be no dispute as to the proper construction of claim 1 insofar as is relevant to the Notice of Cross-appeal.[2] The key integer for this purpose is 1.3. The primary judge correctly made the finding noted in the Notice of Cross-appeal at [1(b)]. The "*determination*" step of claim 1 only requires that each device within the predetermined group know that it is intended to execute the intended operation. It is not necessary that the device "*first understand that the message is intended only for a predetermined group*" before it makes that determination.[3]

3. Claim 2, addressed below, is dependent on claim 1 and it imposes a significant limitation on the manner in which selective control of the predetermined group is achieved, namely via the "*group identification*" and the "*group identification component*". This reinforces the absence of any limitation on the determination means in claim 1: see PJ [872]. Further supporting the breadth of claim 1 is the consistory clause on pp 2.31-3.11, juxtaposed with the consistory clause for claim 2 at p 3.11-15.

4. The primary judge made unchallenged findings about the general operation of CyberDet I Devices at PJ [628]-[630]. By the trial, there was no factual dispute as to the operation of the Cross-respondent (**Dyno**)'s accused CyberDet I Devices in the context of selective control (PJ [999]). Fundamental aspects of this operation are extracted in the Notice of Cross-appeal at [1(c)]. In addition to the evidence identified at [1000]-[1005], expert

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[1] PJ [759].

[2] None of the construction issues on the 873 Patent raised in the Amended Notice of Appeal is relevant to the arguments in the Notice of Cross-appeal. The Notice of Cross-contention relates only to integer 1.1 and the meaning of "plurality of such devices at a blast site" as it applies to CyberDet I Devices within transmission range of the blast control units but at different locations within the one mine. Success on this argument would reduce the number of infringing uses but not avoid infringement altogether.

[3] PJ [865].

evidence was given in concurrent session[4] from Dyno's witnesses, which represented an uncontroversial description of the salient aspects of the technology. In short:

(a) [redacted]

(b) [redacted]

(c) [redacted]

(d) [redacted]

5. The subset of CyberDet I Devices [redacted] are the "*predetermined group of wireless initiation devices*" in claim 1. The [redacted] commands are the relevant "*wireless command signals relating to some operation to be executed only by the predetermined group*". There is no challenge by way of Notice of Contention to the primary judge's finding at [1008]-[1012] that these wireless command signals are both transmitted to and received by the whole plurality of CyberDet I Devices, and not just the predetermined group of devices that is to execute the operation.

6. **Ground 1(d).** However, the primary judge rejected the Cross-appellant (**Orica**)'s infringement case on claim 1 on the basis that the determination step required by the claim

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[4] See [redacted] Unfortunately, the cross-examiner ignored the danger in analogies and so the passages at [redacted] and [redacted] may be disregarded.

[5] Also called an [redacted] in the Dyno documents and by Messrs Napier and Jacobson, although Mr Boucher considered this description not strictly accurate: [redacted]

[6] [redacted]

[7] [redacted].

was not undertaken "*on the basis of information included in the wireless command signal*": PJ [1017], and see also [1016], first sentence. In doing so, her Honour erroneously introduced limitations not only absent from the claim language, but squarely inconsistent with her Honour's findings as to construction at PJ [865]: there is "*no limitation as to the means by which the determination process is required to be performed*". Thus it forms no part of claim 1 that the determination process must rely on information contained in the wireless command signal. The primary judge held at PJ [865] that claim 1 only requires that the device know that it is intended to execute the intended operation. By successfully [redacted] the [redacted] the predetermined group of CyberDet I Devices met this criterion.

7. To the extent that primary judge relied on the observation at PJ [1016] that "*the* [redacted] *is not* ***compared*** *with any data element included in received wireless command signals*" (emphasis added), her Honour also erred. The determination process for claim 1 need not be performed by reference to information in the wireless command signals at all, let alone by a process of "comparing" information from the wireless command signal. The issue of comparison in the context of claim 2 is addressed below.

8. It may be that by introducing limitations to claim 1 contrary to her Honour's own construction, the primary judge inadvertently picked up Dyno's propounded construction, which invoked additional data elements in the command signal and a comparison process.[8] In any event, Dyno does not now assert by Notice of Cross-contention that the primary judge erred at PJ [865] in excluding any such limitations.

9. **Ground 1(d), (e).** The primary judge found at PJ [1018] that the [redacted] information in the wireless command signal "*does not constitute information which a CyberDet I Device can* ***use to determine*** *whether it is part of the predetermined group*" (emphasis added). Two points arise: on her Honour's correct construction of claim 1, this was irrelevant to the infringement of that claim, as explained above. In any event, it was factually incorrect, on her Honour's own factual findings at PJ [1000]-[1006], as summarised at paragraph 4(d) above. [redacted] parameter, transmitted with the command signal, **is** used to [redacted] the signal and thereby allow devices in the

[8] Via Mr Napier at Napier 3, Conf Ann AN-51 [74], addressed at [41.15]-[41.16] of Orica's Closing Submissions dated 30 October 2024.

predetermined group to execute the intended operation. This issue arises again in the context of claim 2, addressed below.

10. **Ground 1(a).** In failing to apply her Honour's own construction in rejecting Orica's infringement case on claim 1, it is possible that the primary judge overlooked her Honour's own observation at PJ [995(2)] as to the way in which Orica opened its case below. In its opening written submissions before trial,[9] Orica relied on Dyno's evidence, particularly that of Mr Napier, as to the operation of the CyberDet I Devices, picking up the key elements summarised at paragraphs 4(a) to 4(d) above. As the primary judge noted at PJ [995(2)], Dyno did not object to Orica pursuing this case at trial. In context, it appears that the primary judge permitted Orica to pursue this case,[10] but to the extent that her Honour did not (e.g., PJ [1016] "*contrary to Orica's pleaded case*"), the primary judge erred. Dyno knew the case it had to meet from Orica's openings submissions prior to the trial, and no prejudice could arise because Orica was relying on ultimately uncontroversial facts as to the operation of the CyberDet I Devices. See *Betfair Pty Ltd v Racing New South Wales* (2010) 189 FCR 356 at [49]-[52].

B. Ground 2: 873 Patent – infringement of claim 2

11. Claim 2 is dependent on claim 1 and is set out at PJ [867].

12. **Ground 2(a)**. At PJ [1020], the primary judge applied her findings on claim 1 to claim 2. For the reasons submitted above, her Honour erred in so doing.

13. **Ground 2(b).** Claim 2 requires the wireless command signal to include a **group identification component** that enables differentiation of devices forming part of the predetermined group from those that do not. The claim also requires that each device used in the method have a control circuit for comparing the group identification with a **stored group identification** for determining on the basis of that comparison whether the device forms part of the predetermined group.

14. The group identification component and the group identification are defined in the body of the specification,[11] and set out at PJ [868]-[869]. Essentially, **group identification** refers to any form of electronically transmitted or stored information suitable to assign a group identity to a wireless device.[12] It "*may take any form and be programmed into the*

[9] Orica's Opening Submissions on Infringement dated 18 September 2024 at [17.2]-[17.4].
[10] See also PJ [1020].
[11] 873 Patent, pp 6.21-7.21.
[12] 873 Patent, p 7.8-11.

wireless initiation device in any way".[13] The **group identification component** refers to a component of a wireless command signal comprising any form of electronically transmitted information suitable for receipt and processing by the wireless device such that the device can compare the group identification component to a previously stored group identification.[14] Importantly, the group identification component can be different from the group identification in the wireless device to which it is targeted, "*providing the wireless devices can process the incoming group identification components to appropriately determine their relevancy.*"[15] The fact that the (transmitted) group identification component may be different from the (stored) group identification means that the "comparing" step in claim 2 does not require identity between the two elements. There is no challenge to the primary judge's closely reasoned findings to this effect, rejecting Mr Napier's opinion to the contrary: PJ [876]-[883].

15. At PJ [1022], the primary judge noted Orica's case as opened at trial.[16] Orica's case below and on the cross-appeal is that the group identification component sent as part of the wireless command signal is the [redacted].[17] It is a form of electronically transmitted information suitable for receipt and processing by the CyberDet I Devices, such that those devices can perform their comparison with the stored group identification.[18] The stored group identification is the [redacted] the predetermined group of devices to be initiated in a particular blast. It is a form of stored information suitable to assign a group identity to a wireless device[19] because it is installed by the [redacted] into the CyberDet I Devices forming part of the predetermined subset. The [redacted] enables the devices in the predetermined group to interpret the [redacted] elements of the wireless command signal via the stored [redacted] in each of those devices. If decryption is successful, the device will execute the intended operation.

16. The primary judge rejected this argument on the basis that the [redacted] is not compared to the [redacted]: PJ [1026], [1027]. However, in light of her Honour's findings at

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[13] 873 Patent, p 21.6-7.

[14] 873 Patent, p 6.21-29.

[15] 873 Patent, p 7.4-7.

[16] As opposed to its "original infringement case" as articulated in Orica's Position Statement on Infringement dated 13 February 2023 and in Mr Papillon's evidence: PJ [1021].

[17] Napier 3, Conf Ann AN-51 [51(c)(v)].

[18] 873 Patent, p 6.25-28.

[19] 873 Patent, p 7.8-11.

PJ [877], [879]-[882], [1001] ("[redacted]"…), [1004] and [1006], the primary judge erred in so doing. The [redacted] is undoubtedly "*complementary to*" the [redacted] and these elements are "*mutually interdependent*". The [redacted] sole function is to allow the device to find the relevant part of the [redacted] (if the device was [redacted] with one) to [redacted] the command signal. The [redacted] is useless if the device does not know where to look within it to [redacted] the signal. In this way, the [redacted] "*correlates with*" the [redacted], if present in the device, within the primary judge's construction at PJ [876]-[881]. A device can process the [redacted] by attempting to apply it to a [redacted] and thus determining its "*relevancy*" (PJ [882]). If the requisite [redacted] has been [redacted], the device will be able to [redacted] the signal and the [redacted] will have been relevant. If the [redacted] is found, it will not be able to [redacted] and the [redacted] will have been irrelevant to that device.

17. The primary judge ought to have found claim 2 infringed.

C. Ground 3: 873 Patent – infringement of claim 4

18. **Ground 3(a).** Claim 4[20] is dependent on claim 2. At PJ [1028], the primary judge applied her findings on claim 2 to claim 4. For the reasons submitted above, her Honour erred in so doing.

19. **Ground 3(b).** At trial, Dyno did not raise any independent non-infringement arguments (i.e. beyond the arguments on claims 1 and 2) in relation to claim 4.[21] In particular, it did not raise the argument that the [redacted] and the [redacted] do not "*correspond*", which was an additional reason given by the primary judge for finding that claim 4 had not been infringed (PJ [1029]). Because the point had not been raised by Dyno, Orica did not address the primary judge in opening or closing submissions on the issue relied upon by her Honour at PJ [1029].[22] The primary judge thus erred in deciding that point adversely to Orica; it was a denial of procedural fairness.

20. **Ground 3(c).** In any event, the primary judge's construction of "*the group identification component corresponding to one of the stored group identifications*" in claim 4 at PJ [1029] was incorrect. The primary judge relied on the OED definition of "*correspond*", but only in a narrow respect. That definition includes the following relevant meanings:

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[20] 873 Patent, p 39.

[21] Dyno's Amended Response to Orica's Position Statement on Infringement dated 22 March 2024 at [41]; Dyno's Opening Submissions on Infringement dated 25 September 2024 at [85].

[22] Orica's responsive case below was that claim 4 would follow the outcome on claims 1 and 2.

(a) *to be agreeable or conformable to; to be congruous or in harmony with*; and

(b) *to answer to in character or function.*

21. As explained above, the [redacted] and the [redacted] are complementary to each other and mutually interdependent. They answer to each other in function, and the information in one is only useful in the context of the other. This meets the ordinary meaning of "*corresponding*" in the context of the claim.

D. Ground 4: 873 Patent – infringement of claims 3, 6, 8, 9, 11, 13 and 15

22. **Ground 4(a).** Claims 3, 13 and 15 are dependent on claim 1 and the primary judge applied her Honour's findings on claim 1 in rejecting Orica's infringement case at PJ [1031]. For the reasons submitted above, her Honour erred in so doing. No additional ground is raised by way of contention in relation to these claims.

23. **Ground 4(b).** Claims 6, 8, 9 and 11 are dependent on claim 2 and the primary judge applied her Honour's findings on claim 2 in rejecting Orica's infringement case at PJ [1032]. For the reasons submitted above, her Honour erred in so doing. Again, no additional ground is raised by way of contention in relation to these claims.

E. Ground 5: 873 Patent – consequential findings of infringement

24. Mr Papillon comprehensively analysed the blasts using CyberDet I Devices at Big Bell [redacted] and at Sunrise Dam [redacted].[23] On Orica's construction of the claims as submitted above, in light of the uncontroversial findings as to how the CyberDet I Device works:

(a) [redacted] blasts at Big Bell [redacted] infringed each asserted claim of the 873 Patent;[24] and

(b) [redacted] blasts at Sunrise Dam [redacted] infringed each asserted claim of the 873 Patent.[25]

25. Dyno did not dispute the figures.[26] However, it said that if the Court accepts Orica's arguments above on construction and how the CyberDet I Device works except as to

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[23] Mr Papillon's initial blast analysis is described at Papillon 1, Conf Ann BEP-8 [59]-[123] The infringement analysis is described at Papillon 1, Conf Ann BEP-8 [266]-[434] and Papillon 1, Conf Ann BEP-11. Following further discovery, Mr Papillon discussed his final opinion on infringement in Papillon 3, Conf Ann BEP-21 [1]-[100]. The final results of his analysis are summarised in Papillon 3, Conf Ann BEP-22 (for Big Bell) and Papillon 3, Conf Ann BEP-23 (for Sunrise Dam).

[24] Papillon 3, Conf Ann BEP-21 [47(a) and (b)], [99], [100].

[25] Papillon 3, Conf Ann BEP-21 [98(a)], [99], [100].

[26] Dyno's Opening Submissions on Infringement dated 25 September 2024 at [78] and footnote 42.

whether CyberDet I Devices that are within transmission range, but at different locations within a mine, are part of "*a plurality of such devices at a blast site*", that would reduce the number of blasts that infringe. This argument is the subject of Dyno's Notice of Cross-contention in answer to the Notice of Cross-appeal. Orica will respond to this argument in reply. The primary judge rejected Dyno's argument as a matter of claim construction at PJ [858], [1013]-[1015].

26. Thus by erring in relation to claim construction as submitted above, the primary judge erred in not finding that the blasts identified above infringed the asserted claims of the 873 Patent.

F. Ground 6: 873 Patent – costs of infringement case

27. The primary judge excluded Orica's costs of the infringement case in relation to the 873 Patent from her Honour's final orders: see order 7(a)(ii) of 24 July 2025. Had the primary judge found that case made out, as submitted above, those costs should have followed the event.

G. Orica's ground of contention: 943 Patent validity

28. In the usual way, Orica will address the additional grounds as to why the primary judge's findings that Australian Patent No. 2010302943 (**943 Patent**) is valid should be affirmed in its submissions in answer to Dyno's appeal on the validity of the 943 Patent.

H. Conclusion

29. The cross-appeal should be allowed with costs and the further orders sought in the Notice of Cross-appeal should be made.

Neil Murray, Kate Beattie, Frances St John, Sophie Yates 24 February 2026
Counsel for Orica