Witness name: Dan Webster
Statement No.: 1
Exhibits: 109
Dated: 29/01/2025

UK COVID-19 INQUIRY
WITNESS STATEMENT OF DAN WEBSTER

I, Dan Webster, will say as follows:

1. I make this statement in response to the Inquiry's request for evidence dated 19 September 2024, to address my understanding of matters of relevance in relation to my own, and the Cabinet Office's, role in relation to the process known as the "Ventilator Challenge".

Overview

2. Prior to the pandemic, I had been in my role as a Deputy Director in the Complex Transactions Team ('CTT') for around 3 years (2017). I was appointed to the Senior Management Team in 2019, so at the relevant time I was part of the CTT leadership team.

3. Before taking up this role, I had a long career in the private sector, starting in corporate finance, helping to raise money for internet and telecommunications companies. I then moved to management consulting, principally dealing with outsourcing and IT functions, including the use of external suppliers and third parties. I moved to the Cabinet Office from there in 2017.

4. The CTT is a small internal consulting team within the Government Commercial Function ('GCF'). Its purpose is to help government departments with complex procurements and negotiations. For example, I have worked with the Home Office and the Department for Energy Security and Net Zero, providing commercial advice to them. The nature of my work within the CTT is similar to the work I was doing in the private sector.

5. As an example of how this works; I helped the Maritime and Coastguard Agency to purchase new radio network infrastructure (which connects boat operators in difficulty through a call centre network and through to appropriate channels of assistance). I also helped the Home Office to develop their sourcing strategy for some of the technology services they deliver. During Brexit I helped DEFRA to set up an EU exit commercial function.

6. Subsequently to the pandemic and my involvement with the ventilator challenge, I have remained in my role in the CTT, and have been involved with some nuclear programmes (with GB Nuclear and the UK Atomic Energy Authority), partly this is because the government wanted to learn lessons about delivering things at pace from successful projects such as those associated with ventilators and vaccines during the pandemic.

7. At the outset of the pandemic, I was involved in advising on deals relating to the information technology functions of the Home Office. Work on this (and other business of the CTT) was abruptly stopped, with myself and others being deployed at short notice. I was told by Janette Gibbs, who at that time was the interim director of the CTT, that I was needed to assist with obtaining ventilators, and should report to Gareth Rhys Williams, the Government Chief Commercial Officer ('GCCO').

Ventilator Challenge

The project and the team

8. The Ventilator Challenge was a project run by the Cabinet Office to design and manufacture ventilators for use in the NHS as part of the response to the COVID-19 emergency. The goal was to ensure that the UK had enough ventilators so that no-one who needed a ventilator would go without one. The Ventilator Challenge sought to pursue all realistic alternative routes to achieve this goal, including:

    a. By designing from scratch and then manufacturing new ventilators.

    b. By modifying the design of an existing product. For example Diamedica had an existing portable gas driven ventilator which we planned to modify and manufacture at scale as an emergency use ventilator.

c. Scaling up production of ventilator models which already had approval by helping existing manufacturers to expand their own production and by pairing existing manufacturers/designers with other companies who could offer greater manufacturing capacity. Examples of this approach were Smiths and Penlon, both of whom had an existing design which was already in use (albeit potentially in a different setting, e.g. the Smiths Parapak which was a ventilator used in ambulances and by emergency services).

9. At the time I joined the Ventilator Challenge team on 13 March 2020, there were no formal roles at that point, and certainly no formal job specifications or role descriptions. I would describe the situation as being "all hands to the pump".

10. As a Deputy Director and commercial specialist, my role in the Ventilator Challenge was to provide day to day management of the civil servants and consultants supporting the projects, to provide commercial input to ensure that we got the correct agreements in place, and providing programme input, in terms of overseeing what the projects were doing, what we were trying to achieve, helping to overcome risks and obstacles, and assisting with decision making to enable the participants to deliver the projects quickly and efficiently.

11. I do not have any background in ventilators, nor medical device technology generally, with my background being primarily in information technology. When I joined, the team was more or less myself, Gareth Rhys Williams, and a few consultants from PA consulting ('PA') who did have medical device and innovation experience (I describe PA's role in further detail below, paragraph [13]). PA were already involved at the point at which I joined the project, and I was not involved or sighted on the decision to involve them. I did, however, have responsibility for defining the scope of their work both at the start of the project, and day-to-day as the project went on. In the course of preparing this statement, my legal advisers have identified email correspondence from PA to me[1] which discloses that I attended a call with Alan Middleton and Mark Brett of PA on Sunday 15 March in which the scope of PA's role was discussed and agreed, and that later the same day Mark Brett sent to me (and Gareth Rhys Williams and the Private Secretary to the GCO) a proposed program structure. PA's proposal outlined that it could assist the UK

[1] DW/001_INQ000562763

Government with coordination of the design, manufacture and roll-out of ventilators to the NHS.[2] I have no independent recollection of the call or the correspondence on 15 March 2020. As the project went on, I was responsible for managing the relationship with PA day to day and making sure that we had the right number of the right people from PA on the project. I had a weekly meeting with the lead partners at PA to review what work they were doing and refine resourcing. PA produced a weekly Project Management Office report to inform our discussions at the meeting[3]. PA were also engaged as design consultants (see further paragraph [13] below).

12. It is important to understand that the civil service doesn't have large reserves of expert staff waiting for a crisis to arise. So when the government wants to do something quickly (particularly when it requires specialist resources) it is necessary to engage people from outside of government. Where we could source personnel from within government for this project we did so (for example lots of civil servants who performed commercial roles within various departments across government were redeployed to assist in efforts to purchase PPE, and a handful civil servants and fast streamers with commercial experience came to work on the Ventilator Challenge). But the government did not have a bank of medical device experts waiting around and available, so outside resourcing was essential.

13. PA's expertise was used in a number of ways throughout the challenge; there would be a consultant from PA embedded with each project which was progressing through the challenge, and they would help to make sure that each project was getting the help that it needed to maximise its chances of success. So for instance they might be assisting with setting up testing or manufacturing processes, deploying different types of resources, capability and specialisms into the projects to help in whatever way they could. They also had some centralised roles, including assisting with supply chain issues by integrating bills of materials (so that we could understand who needed what materials and avoid inadvertent competition between projects for limited stock). They also provided some financial management resources in terms of financial modelling. PA also provided the secretariat function for the Technical Design Authority ('TDA'). In the very early stages of the ventilator challenge a team from PA were also involved as design consultants, but their involvement as design consultants ended around 18 March when the TDA recommended that their design

[2] DW/002_INQ000505995
[3] See DW/003_INQ000497264 for an example of these reports

should not be taken forward[4]. The partner at PA who ran the design work project was not involved in any other aspect of PA's work on the ventilator challenge.

14. PA were a broad firm in relation to their skills, bringing experience in research and development, supply chain management, financial management, and an understanding of the innovation process for things like medical devices, including taking things rapidly through the stages of innovation.

15. At the time I joined the team the Prime Minister had already said publicly that the UK was going to try to build ventilators, and that a twin track was to be adopted, with DHSC responsible for buying any ventilators which were available on the open market, through existing suppliers and creative routes. The second track was the ventilator challenge, which sought to develop and bring to market designs for a ventilator which could be implemented quickly, so that the UK was not reliant upon global competition, or subject to volume constraints. This was a reflection of the fact that it was understood that it was going to be difficult to source sufficient supply of ventilators through the open market, due to the global demand.

16. I should make clear to the Inquiry that I had no role in relation to the formulation or development of this policy aim. At the time of my joining the Ventilator Challenge, the twin track approach described above had already been developed and set out. I am therefore unable to assist the Inquiry on the question of who first proposed the Ventilator Challenge, as any such proposal pre-dated my involvement in the project, and I have no knowledge of it.

17. The primary Cabinet Office Minister involved in the Ventilator Challenge was Lord Agnew, who made all relevant Ministerial decisions. Michael Gove had no day to day role in relation to the Ventilator Challenge. Likewise Boris Johnson; although he certainly did some "cheerleading" in terms of drumming up enthusiasm for the challenge, and I believe COBRA which he chaired was kept apprised of progress of all key COVID response initiatives, he was not directly involved with the operation of the ventilator challenge.

[4] DW/004_INQ000563427

18. Gareth Rhys Williams, as the GCCO, was the Senior Responsible Officer for the ventilator challenge. The day-to-day operations were managed by the "Ventilator Challenge team" comprising:

    a. Clare Gibbs, a Director & Senior Commercial Specialist in Markets and Suppliers team of the GCF who had a leadership role and provided general senior oversight.

    b. Myself, a Deputy Director and Commercial Specialist in the Complex Transaction Team of the GCF and part of Gareth Rhys Williams' team in the Cabinet Office. I was the Commercial Specialist for all the contracts with suppliers and day-to-day leadership of the team of civil servants and consultants.

    c. Staff at delegated grades who provided Project Management Office and commercial support for the Ventilator Challenge.

    d. Frazer Bennett, Simon Collier and Barbara Bradley, Partners at PA.

19. The day-to-day operations team reported to Clare Gibbs and myself and we reported to Gareth Rhys Williams who reported to Lord Agnew, as the Minister.

20. There were daily meetings with me, Lord Agnew, Gareth Rhys Williams, Clare Gibbs and Frazer Bennett and Barbara Bradley from PA from 22 March 2020 which received a standard pack showing anticipated delivery dates and key milestones/issues with each design. From 20 April 2020, the frequency of these meetings was reduced to 3 times a week.

21. These standard packs[5] would typically have been prepared by a civil servant in my team, but information included in the packs came from across the Challenge team, as well as external information (for example on the numbers of ventilators likely to be required). The purpose of these packs was to communicate to Lord Agnew (as the responsible Minister) the progress which was being made on the challenge, to keep him informed of key risks, and any factors relevant to key decision-making.

[5] See for example DW/005_INQ000477967, DW/006_INQ000563424, DW/007_INQ000563420

Essentially the purpose was to brief him so that he could make necessary decisions (for example to turn off any projects which were unsuccessful in the TDA process).

22. Progress on the Ventilator Challenge was also reported to Emily Lawson, the Chief Commercial Officer of NHSE/I and Jonathan Marron, Director General in DHSC, who were in charge of the DHSC's initiative to obtain oxygen and ventilation supplies for the NHS in response to COVID-19, as shown by the organisation structure chart in the PMO Programme Process and Structure Pack for the Ventilator Challenge[6]. I also had occasional conversations with Chris Stirling, who was involved in running the DHSC oxygen and ventilation supply project, so that we were both updated as to the progress of the respective "tracks" of the twin track approach.

23. At the start of the project, I recall things being quite task focused, by this I mean that in a typical programme you might expect to have a fairly significant period of planning and project design, but in these circumstances there was no time to do this prior to starting the substantive work, and so things like adding and allocating resources, setting up basic roles, organising meeting schedules etc. were happening during the initial weeks of the project.

24. The Ventilator Challenge held daily core team meetings with those involved in the day-to-day operations to set the key tasks and objectives for the day. These were "stand up" type meetings, in that they did not have formal minutes. There would then be regular catch ups throughout the day. The reality was that the team was working almost 24/7.

25. The COVID-19 Key Contacts and Workstream List issued on 20 March 2020[7] identified the different people who had been assigned to 12 different projects (counting the Breas Medical Nippy 4 and Vivo65 as a single project). I do not know who produced this document, but it was circulated at the time. An organogram dated 1 April 2020[8] sets out the Product Lead, Project Manager, Technical Lead, Finance Lead and Sourcing Supply Chain lead for these 12 projects. It should be noted that the organisational structure was changing very rapidly at this stage, and these organograms would reflect a snapshot but would not reflect the structure of these teams at the end of the projects.

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[6] DW/008_INQ000477239
[7] DW/009_INQ000562734
[8] DW/010_INQ000478790

26. Given the extreme pressure under which everyone was working, a large part of my role was to ensure the sustainable performance and welfare of those in the team. With people regularly working 16 or more hours per day, and mostly 7 days per week (for a period of 3-4 months), making sure that people were sufficiently rested and well was key to the success of the team. I can recall in particular occasions where I had to advise team members to ensure that they were taking a couple of hours away from their desk, for example to walk their dog, to make sure that burnout was avoided. Personally, I recall an instance where I looked forward to a trip to the dentist to have a wisdom tooth removed, as it provided a rare opportunity for an enforced period of rest.

27. I understood that the Ventilator Challenge was politically sensitive and that there was press and public interest, but I do not recall having any specific involvement with that interest (I occasionally assisted the Cabinet Office and the Cabinet Office Press Office with specific enquiries). Like with PPE and other areas I understood that the press were interested in specific suppliers (e.g. Dyson), but that did not impact my role or involvement with the Challenge. Other than Lord Agnew I did not have any significant direct interaction with other Ministers or politicians.

28. As things progressed, the Ventilator Challenge team set up the Technical Design Authority ('TDA'). I set out details of the TDA further below (paragraphs 49-55), but in short it was the mechanism by which we assessed the progress of designs against the specifications we had from the Medicines and Healthcare products Regulatory Agency ('MHRA'), specifically assessing whether a design was likely to meet the technical specification and medical need. The TDA made recommendations which were then considered by Lord Agnew who would decide which projects to continue and which to stop.

29. There was never a TDA recommendation that a potentially clinically viable project be stopped because of a commercial issue. Our aim was to maximise the chances of every project succeeding, and we wanted to take all possible steps (without wasting money) to drive these projects towards success as quickly as possible.

30. At the same time as progressing the designs, the Ventilator Challenge team were also supporting the suppliers to get ready for manufacture. It is an important aspect of the ventilator challenge to understand that these things were being done, unusually, in parallel. This means that things like the sourcing of materials and parts,

the manufacturing requirement, and supply chain issues, were being understood and worked on in respect of designs which might never actually get to the point where the design was assessed as clinically acceptable.

31. If the Ventilator Challenge team thought that a design was or had the potential to become clinically viable then we would run with and support the project for as long as possible and be as creative as we possibly could with issues around supply and manufacturing. As I reflect in more detail below in the section on "lessons learned", I think that this ability to look creatively and dynamically at things like supply chains was part of the "magic" of the Ventilator Challenge.

32. Once the flow of the projects had been established, part of my role was making sure that we had commercial insight into the projects, and speaking to stakeholders in order to problem solve. Frequently the question I would be asking was; "what is stopping this project from moving faster, and how can we remove that blockage?"

33. As a team, the Ventilator Challenge team would "man-mark" projects, with specific resource from our team allocated to each project. In practice this would comprise commercial support, some project management support from PA, supply chain support and manufacturing support.

34. As well as developing ventilators from scratch, the Ventilator Challenge also sought to scale up production of ventilator models which already had approval, either by helping existing manufacturers to expand their own production (for example we did this with Breas (see further paragraph [146] below), or by pairing existing manufacturers/designers with other companies who could offer greater manufacturing capacity.

35. Whereas with the Smiths Parapac, a design existed which already had regulatory approval, the goal of the challenge was to provide the necessary resources and expertise (for example by partnering the designers with manufacturers from the consortium) to allow them to scale up production. Our role in that process was to understand what was limiting Smiths' production capacity and what was needed to increase the volume of ventilators they were able to produce, and to match them with partners who could provide the assistance they required.

36. We did not prioritise/prefer the development of new ventilator designs over the scaling up production of existing models with regulatory approval, or vice versa. The

primary aim of the challenge (to provide as many ventilators as possible, as quickly as possible) meant that we approached things with the goal of making every project successful. Rather than seeking to prioritise between one project and another, we were seeking to ensure that each project had the right amount of support in order to maximise their chances of success.

37. When pairing designers with manufacturers for the purposes of scaling up production capacity in respect of designs which already held regulatory approval, there would need to be a consideration of the regulatory standards in manufacturing. Part of the overall approval of a piece of medical equipment like a ventilator includes the approval of the manufacturing process, and in particular the adherence to certain manufacturing standards. Whilst these are unique and specific to the medical industry, one of the things which was relevant in selecting manufacturing partners was that some industries (for example the aerospace industry) also use manufacturing standards which, whilst not identical to those used in the medical field, have sufficient similarities that meeting the regulatory standards required for the manufacture of these existing designs was more straightforward than if a partner were to be selected from a manufacturing industry which had far more limited regulatory standards from a quality and safety perspective.

38. One of the differences in respect of the scaling up of existing designs as opposed to supporting and funding the development of new designs, is that with existing designs the designers who had already obtained approval retained their intellectual property and we simply supported the manufacturing process. Where we were paying to support the development of a design, we did retain an interest in the intellectual property (see further paragraph [133.e.] below).

Key bodies, roles and responsibilities

39. I have set out above the roles of the Cabinet Office (including relevant Ministers), the Government Commercial Function (including Gareth Rhys Williams), and the DHSC. In addition, the Inquiry has asked about the roles of a number of other bodies in relation to the procurement of ventilators during the relevant period, which I set out below.

40. **Other Government Departments** – I do not recall having any significant interaction with other government departments as part of the ventilator challenge. I had some

with the Treasury at the very beginning of the process to discuss the levels of funding we believed we might need[9] – I set these out in more detail in paragraph [74] below. The Treasury did not require us to provide regular updates on spending.

41. Although I was not directly involved with these discussions, I am also aware that there was some communication between people working on the Ventilator Challenge and colleagues in the Foreign, Commonwealth and Development Office. These would have been people "on the ground", for example people posted to China, who could assist with in-country contacts and logistics and supply issues. To give an example; when looking to secure parts from Hong Kong, as quickly as possible, the relevant goods reached port on a public holiday, at which time the trade lane was closed, but local contacts managed to book a number of cars through a ride sharing services application, and transfer the necessary parts from a goods lorry into these cars, meaning unnecessary delay was avoided.

42. In addition, the Ministry of Defence (in addition to providing cost assurance and analysis services, as set out below), managed one of the projects involved with the Ventilator Challenge. This project was between Draeger, a German company which makes breathing and protection equipment, and Babcock, an engineering firm specialising in defence manufacturing. Babcock were an existing strategic supplier to the MoD, who knew them well, so it made sense for them to manage that project. That project otherwise went through all of the normal processes for design approval from the TDA etc.

43. **The devolved administrations** – The Ventilator Challenge produced ventilators for the four nations in the UK and Overseas Territories. The allocation and distribution of the ventilators was the responsibility of DHSC.

44. **The Ventilator Challenge UK Consortium ('VCUK')** – the VCUK was a consortium of significant UK industrial, technological and engineering businesses from across the aerospace, automotive and medical sectors, which came together to ensure production capability for the ventilators produced through the Ventilator Challenge. 33 companies were involved in the consortium, which was established by the High Value Manufacturing Catapult, a group of manufacturing research centres in the UK, and led by its CEO Dick Elsy.

[9] DW/011_INQ000563437

45. The Ventilator Challenge team would pair designers with businesses in the consortium to match production capability with ventilator specialists. For example, Penlon's proposals (which eventually became the Penlon ESO2 ventilator), began with a proposal to manufacture a simplified version of its existing Prima anaesthesia ventilator. However, Penlon is a small specialist firm which prior to the pandemic would typically manufacture around 40-50 machines across its product range per month and it did not have the capacity to manufacture enough ventilators itself. The Ventilator Challenge team linked Penlon with the VCUK, allowing it to access production sites across the consortia, as well as enabling the purchase and storage of large orders of component parts, and an enhanced capability to monitor and resolve supply issues.

46. There are many examples of ways in which the consortium assisted with problem solving throughout the Challenge. Another I can recall relates to a part which a Challenge participant needed which was manufactured by a company called Honeywell in their factory in Mexico, which had shut down production because of the pandemic. Ford Motor Company (who were in the consortium) were one of Honeywell's largest customers and were able to use that leverage to get the factory in Mexico re-opened so that production of the part could continue.

47. In another, different example, there were certain parts which some Challenge participants just could not get; McClaren (as a racing and luxury automotive manufacturer) had no capability to manufacture at volume, but had exceptional innovation capacity, and were therefore able to re-engineer required parts in order to work out routes to alternatives including 3D printing and different manufacturing techniques.

48. I reflect in more detail below on these matters, but the point cannot be emphasised enough that the response from British industry (both in terms of the consortium and more widely) was incredible; it was very clear that companies were pulling out all the stops. There was a genuine feeling that people were not chasing profit, but really wanted to help in a global crisis, and that they considered that the right thing to do was to put their expertise and facilities to use in whatever way they could, trusting us to "make them whole" (by which I mean, to ensure that we covered their costs).

49. **The Technical Design Authority ('TDA')** – the TDA was convened by the Ventilator Challenge team in order to assess ventilator designs and inform decisions. The TDA

included experts and representatives from the NHS national clinical team, critical care specialists, MHRA and government departments, and drew on data from device-testing experts. The TDA met 12 times between 18 March and 21 May 2020. Following its initial meetings at which it rejected some devices, the TDA supported 17 participants and gradually reduced this number as each device proceeded through the regulatory testing process, taking into account the developing picture of demand and government's targets at the time.

50. In short the TDA was the mechanism by which we assessed the progress of designs against the specifications we had from the MHRA, specifically assessing whether a design was likely to meet the technical specification and medical need. The TDA made recommendations which were then considered by Lord Agnew who would decide which projects to continue and which to stop. The purpose of the TDA was to make recommendations (i.e. to Lord Agnew, who was the ultimate decision maker) about what to stop and what to continue based principally on the assessment of likely medical utility – basically an assessment of whether the design in question was likely to result in a ventilator that could be safely connected to a human patient and do what was set out in the technical specification. Each design currently in play was assessed at each TDA, and in respect of each design a specific recommendation would be made about whether to stop or continue with them. The criteria considered by the TDA in deciding to recommend continuation or cessation of funding for individual devices were (1) Data provided to the MHRA supported by MD-TEC's testing on the functionality, performance and usability of each device which reflect its clinical effectiveness and potential risks to patients; (2) Progress to date on each device's overall development, including testing, submission of technical file documentation, readiness to review and audit manufacturing sites and clarity provided on bills of materials, supply chain and overall timelines[10]; and (3) Ministerial volume targets and current forecasts of clinical demand taking into account the availability (and supply risk) of other CE marked devices and other projects offering more clinically relevant products over the medium to longer term. The primary criterion was the first one i.e. potential clinical efficacy.

[10] DW/012_INQ000505974

51. In making their recommendations, the TDA would have access to a summary pack about the projects,[11] as well as the MD-TEC[12] reports on the performance of the designs, and also information about things like supply chain readiness, so that, although the principal deciding factors were always medical, views on the practical issues in respect of manufacture could also be taken into account.

52. The TDA narrowed down the list of potential suppliers/projects to those considered worth tracking, and in respect of those projects, the Ventilator Challenge program then tracked progress against their ability to get their designs to a point where they were acceptable to clinicians and others in the TDA and the MHRA. This included identifying design issues and evaluating whether they could be overcome. An example of a design issue which might need to be overcome would be in relation to the existence of electronics in a ventilator which contained/delivered large amounts of oxygen, leading to a risk of fire.

53. The process as a whole was absolutely clinically led, so there was no way that a device which would not pass the necessary tests in terms of safety and meeting medical need would ever progress into the manufacturing stage, but it was also important to have a sense of whether the projects could, theoretically, manufacture these products at scale if they were to receive design approval (i.e. we needed to know whether we would in fact have the "bits" that we needed, by the time we had decided whether we wanted to make a design).

54. As part of my role, I attended meetings of the TDA, but I was not involved as a decision-maker. The TDA was a clinically led, technical evaluation of the product.

55. Ultimately, the decision on whether to stop a project or proceed was a question for the relevant Minister, Lord Agnew. Below (see paragraphs [80-130]), I set out details of those decisions in the section of this statement which deals with the timeline of the ventilator challenge.

56. **The Medicines and Healthcare products Regulatory Authority ('MHRA')** – is an executive agency, sponsored by the DHSC, responsible for the regulation of medicines, medical devices and blood components for transfusion in the UK. The MHRA was responsible for the rapidly manufactured ventilator system ("RMVS")

[11] DW/013_INQ000562760; DW/014_INQ000563442; DW/015_INQ000563443; DW/016_INQ000562761; DW/017_INQ000508289
[12] See paragraph 59 for further information on MD-TEC

Specification. The Specification was updated by the MHRA on a number of occasions and evolved over the course of the Ventilator Challenge programme as the clinical information in relation to the symptoms of COVID-19 increased. The extra functionality and requirements which the clinicians required ultimately meant that the final requirement was for a relatively complicated ventilator (meaning the simpler new designs which had started under the initial RMVS specification were generally not suitable).

57. The Cabinet Office was not involved in making decisions about the clinical specification in the RMVS Specification. The MHRA was in charge of determining what an adequate or acceptable machine had to do, in what circumstances, and under what conditions it had to be manufactured.

58. The main contact within the MHRA for the Ventilator Challenge was Duncan McPherson – he was the person in the MHRA who needed to be happy that ventilator designs would work safely as intended.

59. **The Medical Devices Testing and Evaluation Centre ('MD-TEC')** – The MD-TEC is an independent medical device testing facility which was engaged in the Ventilator Challenge as device testing experts. Prototypes would be sent to MD-TEC who would then subject the devices to laboratory testing designed to test the products against the RMVS Specification and for safety. They would then report back to the TDA who would use their reports in their consideration and recommendations in relation to devices. Their role in relation to the Ventilator Challenge was absolutely critical. Professor Tom Clutton-Brock of MD-TEC was a leading figure in the testing of medical devices in the UK and was a member of the TDA.

60. **The Government Legal Department ('GLD')** – we engaged with GLD in the course of the Ventilator Challenge, including in drafting contracts.

61. **The Ministry of Defence's Cost Assurance & Analysis Service ('MoD's CAAS')** MoD's CAAS assisted the Ventilator Challenge to analyse and audit the costs expended by the various ventilator projects which were to be reimbursed by the CO. CAAS did this analysis and audit work on a needs basis when requested by the Cabinet Office ventilator challenge team.

62. MoD's CAAS also undertook a financial health check[13] on every supplier who received pre-payments (for example those occasionally provided to buy components that either had long lead times or were in danger of selling out). For example, on 26 March 2020 an advance payment of circa £1.3m for set up costs and circa £5.1m to order items with long lead times were processed for Penlon[14].

63. **The NHS** – the Ventilator Challenge did not include a great deal of very close work with the NHS. On the whole, the job of the Ventilator Challenge was to try to build ventilators, and the NHS's role was to distribute those ventilators where they thought best, based upon their knowledge and expertise. Given the different roles, there was no detailed day-to-day working between the Ventilator Challenge team and the NHS in terms of delivery. The TDA did include a group of NHS clinicians – critical care doctors who provided crucial clinical input to the Ventilator Challenge. Their role was to consider and explain clinical preferences, and to bring practical experience into the TDA's discussions, for example around what would and would not work in a real world Intensive Care Unit. They would also be able to bring their clinical expertise in order to understand and explain the technical documentation, as well as having an expert view on the changing understanding of the disease and how ventilators could be best used to treat it (which led to a shift in the importance of different features of potential ventilator designs as the challenge went on).

64. Another part of the NHS's role was ensuring that the related medical equipment and supplies and staff required to operate the ventilators would be in place where the ventilators were eventually distributed. The Ventilator Challenge team would have had a limited role in relation to this, primarily in ensuring that necessary training materials (and access to a call centre for practitioners to access) was available, but in terms of management of things like consumables, oxygen, etc., that was managed by the NHS (via NHS Supply Chain Limited, who have a huge amount of experience in sourcing these kinds of products).

<u>The goal and scope of the challenge</u>

[13] DW/018_INQ000563439; DW/019_INQ000563440; DW/020_INQ000497222
[14] DW/021_INQ000480110; DW/022_INQ000497224 - I was not copied on this correspondence but was aware of the payments at the time.

65. In terms of planning assumptions used by the Ventilator Challenge, my understanding is that Lord Agnew received target numbers (in terms of the numbers of ventilators likely to be needed) based upon forecasts which were presented to COBR. The information packs prepared by a Cabinet Office official in the team, examples of which are exhibited above, include demand projections, including the "balancing number" of ventilators which the Ventilator Challenge needed to produce to bridge the difference between the expected demand for ventilators, and ventilators already in the NHS or which the NHS was expected to procure from sources other than the Ventilator Challenge. I did not see the forecasts presented to COBR and I had no involvement with their development, but I received copies of the information packs that went to Lord Agnew, and I was aware of the balancing number. It was not part of my role to produce detailed production demand scheduling, and the instruction I had (until approximately mid April 2020) was that we were working towards producing as many ventilators as possible as quickly as possible (on the basis that it was not expected that all the projects would be successful). If we had ended up in a position where it was apparent we were on course to deliver too many, we would have dealt with that by "turning down" some of the projects. From about mid April 2020 (see further paragraph [103] below) we had better information about demand and about which projects were likely to succeed and we were better able to match up our production to the government's revised targets .

66. Practically, therefore, the Ventilator Challenge was working to design and manufacture as many compliant ventilators as possible as quickly as possible. The Ventilator Challenge sought to pursue all realistic alternative routes to achieve this goal.

67. At the very early stages of the Challenge, when the formal correspondence set out in paragraph 135 and 136 below, (letters of intent/commitment) was being written, if every participant had been successful I believe we would have had around 100,000 ventilators, however we expected that some or even most of the projects would not be successful. It was not possible at the outset to tell which projects would be successful, and the approach of the Ventilator Challenge was to run a number of projects in parallel to give us the best chance that one or more projects would succeed. As set out in more detail below, as the Challenge progressed, we switched the projects off if it became apparent that they were unlikely to succeed.

68. As I understand it, forecasts as to the likely numbers of ventilators which would be necessary changed over time due to growing clinical understanding of the disease. The initial signs out of Italy had suggested that mechanical ventilation was likely to play a very significant part in the treatment of Covid-19, but as the efficacy of other, less invasive treatments became better understood, the forecasts in relation to the number of ventilators needed were revised down, and the Challenge accommodated that. For example, we ended up buying fewer ventilators from Penlon than we had anticipated at one point (because of the changing demand picture rather than Penlon's production capability).

69. I was aware, at the time, that the picture of the likely demand and forecasts for ventilators was a changing picture. As we had no way of knowing which projects would be successful, we were not working towards a specific target in direct terms, but rather trying to obtain as many ventilators as possible as quickly as possible (in accordance with the financing and spend controls explained in paragraphs 75-76).

70. The Ventilator Challenge ended up manufacturing around 15,000 ventilators. In the event, and due to the need for mechanical ventilation being significantly lower than initially thought, I understand that very few of these ventilators were actually used during the pandemic, but the project was a success in that it achieved what it set out to achieve.

71. I have been asked by the Inquiry whether I was aware of any point when a patient who needed a ventilator during the pandemic was not able to get access to one. I was not informed of clinical decision making in this way, but I am not personally aware of any situation where someone who needed a ventilator did not have access to one.

Financial Tracking and Reporting on the Ventilator Challenge

72. In the early days of the project, we had a very simple tracking system, really just a grid view on a spreadsheet showing what things were in play, where they were at, and money spent[15]. As the project went on and our PMO capability matured, we

[15] See DW/023_INQ000512988 for an example dated 26 March 2020.

used other documents to track activity and progress including a detailed financial model[16], the weekly PMO report[17] and the daily reports to Lord Agnew[18].

73. From approximately 20 May 2020, the Ventilator Challenge team used a detailed financial model to keep track of past spending and estimated future costs and recoveries[19] on the Ventilator Challenge. The model was contained in an Excel spreadsheet document. The document was owned by a consultant at PA who compiled it with assistance from Cabinet Office officials. The information about actual costs came from Cabinet Office Finance, and there was input from the various projects to ensure that the forecasts in the model were as accurate as they could be at any point in time. The financial model had a tab (labelled DW for LA) which presented the data in the format in which I reported it to Lord Agnew. I received an updated version every week. I reviewed the updates to make sure that payments we had made were appropriate, that updated estimates of future costs and recoveries were reasonable and that the underlying assumptions were appropriate.

74. In terms of financing for the Ventilator Challenge. We were a reasonably small project in spending terms compared to some of the other schemes which were being funded in the early days of the pandemic (which included furlough and test and trace). We were not subject to regular scrutiny in relation to spending from the Treasury or other bodies. We did not engage with spend controls in the way that they would typically operate outside of a crisis (although see paragraph [75] below in relation to spend controls that we did operate). Richard Hornby, the Cabinet Office CFO was kept informed of our spending. Because of the nature of the project and the speed at which we were seeking to deliver, the attitude towards spending was less geared towards developing and sticking to a tight budget, and more focused on projects communicating what they needed in order to move as fast as possible, and that being facilitated so long as it was reasonable, so that no one was going to go without a ventilator that needed one. In late March and early April 2020 my team and I provided information about spending to date and estimated future spending to the Treasury for the purpose of obtaining approval of the sums already spent by the Ventilator Challenge and a facility to be provided in relation to future spending[20]. At

[16] *DW/024_INQ000513018*
[17] See *DW/003_INQ000497264* for an example of these reports
[18] See for example DW/005_INQ000477967, DW/006_INQ000563424, DW/007_INQ000563420
[19] See paragraph [131] below in relation to value recoveries in the final phase of the Ventilator Challenge.
[20] DW/025_INQ000563435, DW/026_INQ000563436, DW/011_INQ000563437

this relatively early stage, the financial model did not exist in its final form, and we were tracking spending and estimated future costs our Commercial Activity Log[21]. The financial information in the Commercial Activity Log was similar to the spreadsheet I have referred to at paragraph [72] above, but had more data on costs and included a list of the invoices we had paid. It was an intermediate stage between the very earliest spreadsheet and the later financial model.

75. The Ventilator Challenge program did have some important cost control mechanisms internally. One of these was stopping projects as soon as it was clear that they were unable to deliver, either from a clinical efficacy perspective or because of practical issues in deliverability. We also regularly reviewed the information in the financial model (or in the earlier stages, the Commercial Activity Log and before that the spreadsheet referred to at paragraph [72] above) to make sure we were tracking spend, and improving our financial estimates, and where needed, MoD's CAAS team provided audit and analysis of project costs where these were sought to be reimbursed.

76. Another was that we embedded commercial colleagues into the projects themselves, so they would be able to take a view on things such as (for example) the reasonableness of the costs being quoted to set up a production line.

77. This method of extremely "hands on" management of each of the projects allowed us to understand what was being spent and the reasonableness of that spending in close to real time.

78. Additionally, as projects were stopped as the programme progressed, we ended up owning quite a lot of materials and components, and so we saw effective value recovery during the "close down" phase (for example selling and recycling aluminium). See paragraphs [126-130] below for further detail on the "close down" phase.

79. Given the pace of the project and the spending decisions which had to be made, there were inevitably some decisions which involved a degree of risk of "wasted costs" (for example, where parts had long lead times, we sometimes had to order before we knew whether the device to which they related would be viable), but the key questions were not in relation to keeping individual costs down but rather

[21] DW/027_INQ000563438

whether we thought it would help the overall mission of having more ventilators quickly. If we had run a more traditional procurement exercise where, for example, we were looking to select only 3 or 4 suppliers who could meet the demand at the lowest cost, it may, in theory, have been (for example) possible to get the devices at a lower unit price but likely on an extremely extended timeline. It is worth noting that the typical timeframe to bring new medical devices to market is measured in years, not months – one supplier told us that it typically takes more than four years from conception to market. Given that the goal of the challenge was to make sure that no one who required access to a ventilator did not have one, that approach to cost-control would not have worked. My team provided copies of our financial model and other information to The National Audit Office for the purposes of preparing their report 25 September 2020.[22] The rough average total cost of a ventilator purchased through the ventilator challenge was around £18,300, including programme costs and the costs spent on designs that did not proceed to manufacture, calculated as (total programme costs £276.17 million[23]) divided by (number of ventilators purchased 15,154[24]) = £18,224[25]This is slightly less than the approximateaverage cost of mechanical ventilators bought from new and existing suppliers, although the devices are not directly comparable since the ventilators manufactured for the Ventilator Challenge were for emergency use and not fully featured ICU ventilators.

Ventilator Challenge Timeline

80. The Ventilator Challenge 'call to arms' pre-dated my active involvement in the programme and I was not directly involved in the press release or other communications. My understanding when I joined the challenge was that the objective of the Ventilator Challenge 'call to arms' had been to seek support from manufacturers and suppliers whom it was considered might be able to work.

81. On Sunday 15 March 2020 I received a copy of the initial Specification for a rapidly manufactured ventilator system ("RMVS")[26].

[22] DW/028_INQ000562736
[23] See the financial model DW/024_INQ000513018
[24] 11,662 Penlon + 1,492 Smiths +2000 Breas = 15,154 ventilators (see the tab marked "product overview" in the financial model)
[25] This figure may be a slight over-estimate of the cost of a ventilator, as programme income of £691,372 has not been taken into account.
[26] DW/029_INQ000508305

82. On 16 March 2020, the Prime Minister convened a video call with leading manufacturers and suppliers to encourage them to participate in the Ventilator Challenge and to ask for the names of further potential companies, as well as for ideas on designs[27]. I was copied on an email thread containing some planning for the video call but as far as I remember I did not attend the call.[28]

83. Also on 16 March 2020, the Department for Business, Energy & Industrial Strategy ('BEIS') published the wider call for businesses to help make NHS ventilators on the gov.uk website. I was not directly involved in this, but was aware of it at the time.

84. By the time I came on board, the call to arms had recruited a number of suppliers with expertise in medical design or rapid manufacturing ("the Design Consultants"). The list included: TTP Consulting, Team Consulting, Sagentia and Cambridge Consultants. Unipart and Metlase were also included as consultants to support the supply chain and procurement.

85. All of these consultants, other than Unipart, are part of the so-called "Cambridge Cluster" of medical technology companies. These consultants deployed teams of scientists and engineers who worked collaboratively to support the Ventilator Challenge.

86. In addition, BEIS also published a wider call for businesses to help make NHS ventilators on the gov.uk website[29]. The request was made to manufacturers and also for businesses with skills in "design / specification", "rapid prototyping", "contract / product assembly", "certification / regulation / testing", "logistics", and "medical training". Businesses were asked to register their details if they could help.

87. The Government received a large number of offers of support in response to this wider request for help. All these offers were recorded in a live database[30]. PA then identified and spoke to any suppliers from the database who appeared to have a realistic prospect of meeting the necessary specification within the required timeframes, with a design that could be scaled up rapidly, and invited them to participate. I was aware at the time that PA were undertaking this task but I was not

[27] DW/030_INQ000562749
[28] DW/031_INQ000562741, DW/032_INQ000562764
[29] DW/033_INQ000562748
[30] DW/034_INQ000477250 is a snapshot dated 14 May 2020

myself involved in this process. There were a number of suppliers who we became aware of through this route. For example, through this process we ended up in contact with the British firm GTech, who design and manufacture electronic home and garden appliances (and on that basis seemed promising as a potential source of a design). It became clear fairly swiftly that we could not make use of what GTech was offering and we ended their involvement promptly. This was no reflection on GTech, who were a pleasure to work with, keen to assist in any way they could, and had many talented engineers, it was just that we could not fit what they could offer into the projects we were running.

88. From around 17 March 2020 my team were concentrating on agreeing some initial contracts ("the Design Contracts") to get work going with the so-called "Cambridge cluster" and other suppliers. We wanted to get them moving and working on this project as quickly as possible, and we needed to put them on a proper commercial basis - so that the terms on which they were spending time and purchasing materials were clear. I refer to the Design Contracts in more detail at paragraphs [132-134] below.

89. I was copied in on correspondence from Steve Jones relating to the terms of the (then proposed) contracts with the various design consultants.[31] I would have had conversations with Steve about the terms of those contracts. By Tuesday 17 March 2020 consultants had been engaged, and the relevant contracts, although not signed, were in train. These design consultants were engaged on a rates basis plus reimbursement of their documented reasonable costs.

90. The first meetings of the TDA took place on 18 March 2020, 20 March 2020[32] and 23 March 2020[33]. In addition to the TDA meeting itself, on Wednesday 18 March 2020 there was also a wider design and brainstorming session on that day at PA's offices in Cambridge, attended by many of the teams.[34] As above, I attended the meetings of the TDA but I was never a decision-maker on the TDA.

91. On Friday 20 March 2020 there was a TDA meeting[35] at 2pm where the TDA received presentations from suppliers at PA London office, which I attended. For

[31] DW/035_INQ000562743
[32] DW/004_INQ000563427
[33] DW/036_INQ000513004
[34] DW/037_INQ000562742
[35] See DW/004_INQ000563427 for summary outcomes.

example Smiths came along to demonstrate the Parapak device, and we had a number of meetings and discussions about the Ventilator Challenge. We also invited people to present 25 minute presentations on that day.

92. A further similar session happened on 23 March 2020. This took place online and from rooms booked in PA's offices (this was the first day of the national lockdown).

93. Through this process, by late March 2020, 14 designs had been selected to move forward with. I was not directly involved with selecting the designs which would proceed, but I did have involvement in the wider process, for example making phone calls to potential participants with whom we had decided not to move forward. These 14 designs were presented to the Prime Minister at the 9.15am COVID-19 strategy meeting on 27 March 2020.[36] I did not attend that meeting but did have a "wash-up" meeting with Gareth Rhys-Williams and others at 12:30 that day to discuss the outcomes.

#	Device	Designer	Potential Manufacturer	Proposal
1	Prima ES02	Penlon Limited ("**Penlon**")	HVM Catapult (Ford, Siemens, McLaren, Meggit)	New device built from core modules of an existing anaesthesia ventilator.
2	Helix	Diamedica	Plexus	Scaled up version of existing device
3	Mosquito	Sagentia	Sagentia	New design
4	EVA (initially called "Jarre Head")	TEAM Consulting (based on a Diamedica design)	Cogent	New design
5	Lifeline Remora (subsequently called Blue Sky)	Darwood IP	Innovate UK, Pitlane Consortium (all 7 UK based F1 teams), Olympus.	New design

[36] DW/038_INQ000088311; DW/039_INQ000512989

6	ParaPac 300	Smiths Medical	Smiths Medical	Scaled up using additional manufacturing from Airbus GKN/ Rolls Royce
7	CoVent	TTP	Dyson	New design
8	Zephyr+	Draeger	Babcock	Adapted version of an existing Draeger device
9	Belavista/ iX5	Vyaire		Existing device
10	Nippy4+	Breas Medical	Breas Medical	New design just launched by Breas
11	Vivo65	Breas Medical	Breas Medical	Existing design
12	Gemini	OES Medical	BMW	Adapted version of an existing device
13	Apollo 13 (subsequently became Veloci-Vent)	Cambridge Consultants Ltd	MetLase (Unipart)	New design
14	OxVent	King's College London and Oxford University	Smith & Nephew	New design

94. Out of the 14 designs referred to above:

a. The existing Vyaire Belavista/iX5 ventilator, manufactured outside of the UK, was referred to DHSC to try to procure. I did not make the decision to refer to DHSC but I discussed it with Gareth Rhys-Williams at the time.

b. The Zephyr+ design by Draeger and Babcock was managed and paid for by MOD. I was involved in handing over responsibility to MOD, who I recall were keen to help and keen to take on the management of this project. Babcock were a "strategic supplier" to government with a significant existing relationship with the MOD. I received an email from Adrian Baguley (an official in Defence Equipment and Support) on 26 March 2020 making an offer to manage this

project within the MOD, and we then handed over responsibility to them. I had discussions around the handover with Luc Barden, then the Crown Representative responsible for managing the government's relationships with Babcock as a strategic supplier. The Babcock project provided information to the Ventilator Challenge commercial and project teams so that we could ensure we had the data we needed for reporting and management of the Ventilator Challenge Program (including production schedules, and costs)[37]. A junior CO official (fast streamer) was designated as a liaison for the Babcock project, but we did not have a CO commercial specialist and/or anyone from PA embedded in the projects (as we had with the other projects in the Ventilator Challenge). The information provided by Babcock was fed into the daily reporting to Lord Agnew.

95. Other projects who were not part of the initial 14 were added later, such as those set out in the table below. BAE systems became involved in the Ventilator Challenge after they emailed Gareth Rhys Williams on 29 March 2020 to say that they were working on a ventilator and were aiming to produce 5000 by the end of April and asking for help and support.[38]

#	Device	Designer	Potential Manufacturer	Proposal
15	Florence (later renamed AirCare)	BAE Systems	InterSurgical	New design
16	Piranvent	Swagelok	Sagetech	New design
17	LTV2	Vyaire	N/A	Existing design (only used in Japan pre-pandemic)

96. Following the first meetings of the TDA on 18, 20 and 23 March 2020, . letters of intent/commitment/comfort were issued to potential manufacturers of the ventilators remaining in the challenge. The first letter of commitment was issued on 23 March

[37] DW/040_INQ000562765, DW/041_INQ000562721
[38] DW/040_INQ000562765

2023 (to Smiths Medical Limited, whose design was considered by the TDA on 20 March and recommended to prioritise)[39] further letters of intent/commitment/comfort were issued between 23 March 2020 and 30 April 2020 (with all but one issued between 23 March and 29 March 2020) (see further paragraph [136]). I do not now recall why the OES Medical Gemini letter of commitment was not sent until 30 April 2020[40].

97. The Cabinet Office placed the first order with Penlon on 26 March 2020 and a further order on 29 March 2020 (see further paragraph [142])

98. The Cabinet Office entered into the Design Contracts on 27 March 2020, 1 April 2020, 8 April 2020 and 20 April 2020 (see further paragraph [132-134]).

99. The Cabinet Office placed the first order with Smiths Medical on 29 May 2020. A further order was placed on 1 June 2020 (see further paragraph [144])

100. The Cabinet Office entered into Manufacturing Contracts for pre-production samples and testing samples on 2 April (with Plexus and Cogent Technology). See further paragraph [141] below.

101. I attended a further meeting of the TDA on 6 April 2020.[41] Seven new potential suppliers were subject to an initial review. The TDA identified two of these as suitable to pursue further (BAE and Berkeley). The TDA also recommended that future offers of support in the form of new designs and product offers should no longer be reviewed nor passed to the TDA, rejection communications should be sent to suppliers with whom the Ventilator Challenge had not yet communicated and there should be broader communications/press release about the closing of the Ventilator Challenge.

102. On 7 April 2020 the Minister for the Cabinet Office entered into a contract with Inspiration Healthcare for provision of Ventilator Helpline Services starting from the date when ventilators sourced through the Ventilator Challenge are shipped to hospitals.[42]

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[39] DW/042_INQ000562752

[40] In the course of preparing this statement my legal advisers have found DW/043_INQ000477923, and DW/044_INQ000477924 which appear to be draft letter of commitment and a draft contingent order addressed to OES Medical dated 10 April 2020 based on a review of my email I do not believe that these were ever sent.

[41] DW/045_INQ000563431

[42] DW/046_INQ000562723

103. On 10 April 2020 the MHRA's RMVS Specification changed substantially. This significant shift in the RMVS Specification and the approach of the Ventilator Challenge was driven by two factors (as explained at the TDA meeting on 14 April 2020 [43] and in the TDA's review published on 15 April 2020 [44]):

a. First, the forecast demand for ventilators was lower and increasing at a slower rate than the initial forecasts (that suggested that patient demand was set to significantly outstrip supply). I don't recall the specific discussions around demand, although I do recall that the potential demand reduced over time.

b. Second, the understanding of the clinical requirements of ventilators to treat patients with COVID-19 had changed.

104. As a result of these changes, there was less merit in continuing to develop less clinically sophisticated devices (e.g. the Blue Sky device - see further paragraph [107] below) and more time to deliver ventilators which would suit longer term needs, including the risk of a further peak in winter 2020.

105. On 11 April 2020, a submission was made to the Chancellor of the Duchy of Lancaster and Minister for the Cabinet Office and Lord Agnew formally updating them on the progress and decisions taken in the first weeks of the Ventilator Challenge up to 8 April 2020.[45] I was involved in the preparation of this report.

106. Following TDA sessions held on 9 and 10 April 2020, the TDA recommended that the Parapac (Smiths), LVT2 (Vyaire), Prima ESO2 (Penlon), and Nippy 4/Vivo 65 (Breas) devices should be continued (the TDA concluded that these devices were likely to be able to meet the new specification), that financial support for the Blue Sky Device should be stopped (as it did not appear likely to meet the new specification), and that the remaining devices should be reviewed after further testing[46]. Further spending on development of the Helix and OxVent devices was paused including any further spend on materials or manufacturing apart from testing activities was also suspended pending further testing and further review of these devices by the TDA on 14 April 2020[47].

[43] DW/012_INQ000505974
[44] DW/047_INQ000563446
[45] DW/048_INQ000563418
[46] DW/049_INQ000563096
[47] DW/050_INQ000477252, DW/051_INQ000562753

107. On 12 April 2020, a further submission[48] was made to the Chancellor of the Duchy of Lancaster and Minister for the Cabinet Office and Lord Agnew, recommending that financial support for the BlueSky project be stopped. The submission also recorded that we had paused spending on the Helix and Oxivent projects (see paragraph [106] above). I was responsible for supplying information to include in the submission.

108. Lord Agnew decided in accordance with the recommendation to inform the consortium behind Blue Sky that the Cabinet Office would no longer provide financial support.[49] My team drafted a letter for Gareth Rhys Williams to send to BlueSky, thanking them for their participation, and notifying them that we would not be continuing with that project and that we would work with them to close out the project and would cover their costs.[50] This letter was sent to Innovate on 12 April.[51]

109. There was a TDA session on 14 April 2020.[52] Following this meeting, the TDA recommended that OxVent, Invicto (JFD) and Blue Sky projects be removed from the challenge (funding for Blue Sky had already been stopped as set out above paragraph [108]). It was recommended to continue with the manufacture and purchase of 5 devices. These included the LTV2 by Vyaire, a product that was potentially going to be scaled up in the USA (which did not receive any funding because it was unclear if it was ever going to be scaled up, and importantly, even if it was, whether it would be CE marked, something by this stage that was needed), Breas Medical's two devices, the Smiths ParaPac and the Penlon Prima ESO2. The other 9 devices were to be subjected to further testing as to their capability and suitability. I attended the TDA meeting, and I was there in the room when the decision was made, but I was not a decision maker – this decision was led by the clinicians.

110. By 14 April, stopping of projects for medical reasons (i.e. being assessed as unable to meet the medical specifications), naturally managed down the total number of ventilators which could potentially be available. Also at this point, in parallel, we were also starting to develop our understanding in relation to production capacity, in

[48] DW/050_INQ000477252
[49] DW/052_INQ000562754
[50] DW/053_INQ000562746, DW/054_INQ000562747
[51] DW/055_INQ000562758; DW/056_INQ000562759
[52] DW/012_INQ000505974

particular whether designs which might meet the medical specification could be produced within the correct timeframe. We were helping projects to understand production challenges and how to overcome these, as well as having conversations about the "right" numbers to be aiming at.

111. By around mid-April 2020, it had been identified that the NHS had around 8,000 ventilators in service. Around a further 1,000 ventilators had been found by contacting veterinary surgeries. DHSC (specifically through the oxygen programme which was headed by Emily Lawson) started this piece of work early on in the COVID crisis to understand how many ventilators were already in the system, but it took a while to complete because there was no integrated NHS system to track these stock levels, so it involved contacting individual Trusts and Hospitals.

112. By mid-April of 2020 the instruction to produce as many ventilators as possible was revised. This was because by this stage we had a clearer idea of likely manufacturing outputs, better understanding of how many ventilators the NHS already had, and an evolving understanding of the likely need for ventilators. However, it should be emphasised that ventilators are difficult to design, and also difficult to produce in terms of manufacturing requirements, the challenge of ramping up the production of the devices themselves was really difficult (for example there were difficulties obtaining parts, and training manufacturing staff), so we were not yet at the point where we considered it appropriate to instruct participants to "go slower", even though the potential supply was also being adjusted downwards as we reduced the number of projects through the TDA process. At this point our focus was still on doing everything we could to promote the successful manufacture of designs we were comfortable with. I do not recall that it was thought at this stage that there was a risk of producing too many ventilators, more of a risk that there would be too few.

113. After the TDA meeting on 14 April, my team assisted with drafting a submission from Gareth Rhys Williams to the Chancellor of the Duchy of Lancaster, Lord Agnew and Edward Agar (Junior Minister DHSC). The submission recommended that the Cabinet Office should prioritise the manufacture and purchase of Penlon Prima ES02, OES Medical Genesis, Breas Nippy4+, Breas Vivo65, Vyaire LTV2 and that the Cabinet Office should continue to progress the independent pre-clinical testing commissioned by the MHRA of the remaining 8 devices of the remaining 8 devices. The submission also recommended that, pending feedback, the Cabinet Office

should no longer progress the Helix, Sagentia Mosquito, OxVent products for domestic production[53], however, before the projects were completely stopped, FCO and DFID were to be given the the opportunity to review their potential clinical use in an international aid / export setting[54]. The Ministers adopted the recommendations made in the submission.[55] Delaying the complete stop of the Helix, Sagentia Mosquito and OxVent products also gave some cover for the still present risk that the other projects would deliver as planned.

114. I can see from my diary that there was a Vyaire technical briefing at 4pm on 17 April – I had a number of other meetings scheduled at the same time. I cannot now remember whether I attended that meeting.

115. The TDA met on 22 April 2020. By that stage we had good visibility of projects against the necessary requirements, and were well placed to make an assessment whether they were developing to a point where they could be delivered in the timeframe available for the project - we had a target of the end of the June. I attended the 22 April TDA meeting from 1030 to 1230. I don't have a specific recollection of that meeting but I can see from the minutes[56] that the outcome was that the TDA recommended that the following devices should remain in the Ventilator Challenge and preparations made for manufacture:

a. Nippy 4+ and Vivo 65 by Breas Medical.
b. The Prima ESO2 by Penlon.
c. The ParaPac by Smiths.

116. The TDA also recommended that 2 other devices (Gemini, Zephyr) plus the SOG CPAP device should remain in the Ventilator Challenge, with further development funded, but this position should be reviewed at a later date. By that point we were developing our understanding of likely timescales and volumes for production of the Penlon and Smiths devices, and we were still not certain we could get all the parts we needed. For example, I recall that for Penlon there was a potential difficulty in securing a sufficient number of touch screens. A producer is

[53] DW/057_INQ000562740. These devices plus Invicto (JFD) were the devices which ranked lowest in terms of similarity to a critical care ventilator: see DW/058_INQ000563094.
[54] DW/059_INQ000562757, DW/042_INQ000562752 DW/042_INQ000562752 was copied to me at the time, and relates to the potential use of ventilators in an international aid/export setting.
[55] I have been shown DW/060_INQ000421253. I was not copied into this email, but was aware at the time of the decision recorded in it.
[56] DW/061_INQ000563433

only able to manufacture as many units as the scarcest component. Continuing to progress the remaining projects for a further period would give the Ventilator Challenge team further time to overcome these potential difficulties in producing the expected volumes of Penlon and Smiths devices and build some contingency into the project in case these challenges with Penlon and Smiths could not be overcome. A short extension would also provide some phase out for the relevant products and the (small) possibility for the Veloci-Vent in particular to pass testing.

117. Finally, the TDA recommended that a number of devices should be removed from the Ventilator Challenge. The devices which the TDA recommended should be removed included the Mosquito by Sagentia, LTV2 (Vyaire), Piranvent (Swagelok), Apollo 13 (Metlase CCL), Covent (Dyson, TTP), Florence (BAES, InterSurgical), EVA (TEAM, Cogent), Helix (Diamedica/Plexus), Oxvent (KCL, Oxford) and InVicto (JFD). The technical file for the Mosquito device was only submitted to the MHRA after 10pm on 20 April 2020, meaning there was no time for the appropriate review and collation of this information before the TDA meeting on 22 April 2020. A further TDA session was held on 30 April 2020[57] to review the technical file on the Sagentia device. However, this information did not change the recommendation to remove Sagentia from the Ventilator Challenge.

118. Following the 22 April TDA meeting, my team assisted in drafting a submission to Ministers on the outcome of the meeting.[58] On 24 April 2020 the Chancellor of the Duchy of Lancaster and Minister for the Cabinet Office and Lord Agnew decided to proceed with the Smiths Medical, Penlon and Breas devices (as recommended by the TDA), to stop Oxvent (KCL, Oxford), Helix (Plexus), EVA (TEAM, Cogent) and InVicto (JFD) (4 of the devices which the TDA had recommended should be stopped), and to continue to support the other designs for a further week, with additional funding of up to £250,000, ending on 4 May 2020. The devices which received support for a further period were Gemini and Zephyr (which the TDA had recommended to continue for a further period) and LTV2 (Vyaire), PiranVent by Swagelok, Veloci-Vent by Cambridge Consultants, CoVent by Dyson, Mosquito by Sagentia and Florence (also called Aircare) by BAES ("the Group 3a Devices") which the TDA had recommended to stop. The Group 3a Devices were primarily extended

[57] DW/062_INQ000563434
[58] DW/063_INQ000512994

to allow the supply chain visibility of the Penlon and Smiths devices to improve before a final decision was made. My understanding now and at the time was that the Minister was taking a risk averse approach by keeping the Group 3a devices going as risk mitigation until some further wrinkles in the Smiths and Penlon projects were ironed out and until it was even more certain that they would be manufactured as expected (I believe that this would have been discussed in one of the regular update meetings with Lord Agnew which I attended, although I don't now specifically recall).

119. My team was responsible for writing letters[59] from Lord Agnew's office to suppliers which informed them of the Ministerial decision and that we would not be continuing with them, as well as informing other suppliers who were being given more time to resolve remaining issues.

120. I recall that between 8 April and 29 April 2020, some funding was given through the Ventilator Challenge to consider the development of a re-breather device, which may have assisted with potential issues with oxygen supply levels in the NHS. By 29 April it had been decided not to proceed with this.

121. On 5 May 2020 at 4pm, there was a further TDA review of the Group 3a devices[60] (see paragraph 118 above). I do not have specific recollection of this meeting but I did attend and would have been party to the discussions.

122. Following this meeting of the TDA, on 7 May 2020 a submission[61] was made to the Chancellor of the Duchy of Lancaster and Minister for the Cabinet Office Michael Gove, and Lord Agnew, recommending that support for all five of the Group 3a devices should be stopped because (1) these devices did not meet the current clinical need (albeit some were very close), (2) these devices would not receive emergency exemption use from the MHRA in the necessary timescale, and (3) the Ventilator Challenge was already forecast to achieve the target of 30,000 stock of ventilators by the end of June 2020 without these devices. These recommendations were accepted. I was involved in providing information for this submission, which was drafted by a junior official in the team. I was also involved in drafting letters for Gareth Rhys Williams to send out to the suppliers who were being stopped.

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[59] DW/009_INQ000562734, DW/064_INQ000562735
[60] DW/065_INQ000563428
[61] DW/066_INQ000512999

123. I attended a further TDA session on 21 May 2020.[62] I have no specific recollection of this meeting. Following the TDA meeting my team assisted with drafting a submission to the Minister on the outcome of the meeting and final mix of ventilators[63], and with drafting letters for Gareth Rhys Williams to send out to the suppliers who were being stopped (namely OES Medical Gemini[64], Vyaire Medical[65] and Babcock[66]).

124. Ultimately, the following ventilators were provided to the NHS:

Device	Designer	Manufacturer	Cost
Prima ES02	Penlon	HVM Catapult (Ford, Siemens, McLaren, others)	£125.8m
ParaPac 300 & 310	Smiths Medical International	GKN/ Rolls Royce	£26.6m
Nippy4+	Breas Medical	N/A	£9.6m
Vivo65	Breas Medical	N/A	
Totals			**£160.6m**

125. Once the ventilators were delivered to the distribution centre, DHSC decided where and to whom they were to be delivered. The Cabinet Office was not involved in this process.

126. The Ventilator Challenge was closed down in June and July 2020. A Wrap Up Board was established which held meetings in June and July. This was a project to tie up loose ends with the closing down of the production of ventilators. It included activity such as paying outstanding invoices and the publication of CANs, as well as

[62] DW/067_INQ000563429
[63] DW/068_INQ000563421, DW/069_INQ000563422, DW/070_INQ000563423
[64] DW/071_INQ000562737
[65] DW/072_INQ000562750
[66] DW/073_INQ000562720

the work of the value recovery team, which dealt with (for example) the reselling of components which had been acquired but not used.

127. As part of the wrap-up process, formal close down correspondence was issued to suppliers, including as follows:

Supplier/ Device	Document Type	Date	Reference
BAE Systems PLC	Close Down Letter	26 June 2020	DW/131_INQ000564908
Team Consulting	Close Down Letter	3 July 2020	DW/138_INQ000564818
Plexus Corp (UK) Limited	Termination Letter	3 July 2020	DW/137_INQ000564813
Vobster Marine Systems ("VMS")	Close Down Letter	3 July 2020	DW/132_INQ000564812
Cogent Technology Ltd	Close Down Letter	10 July 2020	DW/145_INQ000564816
Smith & Nephew	Close Down Letter	13 July 2020	DW/133_INQ000564909
Cambridge Consultants Limited ("CCL")	Close Down Letter	15 July 2020	DW/139_INQ000564914
Kings College London	Close Down Letter	15 July 2020	DW/140_INQ000564819
Oxford University	Close Down Letter	21 July 2020	DW/135_INQ000564817
Swagelok	Close Down Letter	23 July 2020	DW/136_INQ000564913
Blue Sky/Remora Consortium	Close Down Letter	27 July 2020	DW/123_INQ000563403
OES Medical Ltd ("OES")	Close Down Letter	28 July 2020	DW/144_INQ000564912
Penlon	Agreement for Cost Recovery	30 July 2020	DW/134_INQ000564910

JFD Limited	Close Down Letter	31 July 2020	DW/143_INQ000564815
PA Consulting Services Limited	Close Down Letter	31 July 2020	DW/142_INQ000564814
TTP Plc	Close Down Letter	31 July 2020	DW/146_INQ000564911

128. The key people on the Wrap Up Board were me, and Clare Gibbs with support from PA and members of my team. Clare and I both chaired the board, but Clare made the ultimate decisions on entering into value recovery, on the advice and recommendations of the board.

129. The team working on the challenge reduced in size throughout June and July as the commercial problems involved in the projects were solved and the workload diminished. By this point the team working on the Ventilator Challenge had significantly reduced. Most of my civil service team including Steve Jones and Stephanie Wells had gone back to their day jobs in the commercial function. I believe by this stage my team consisted of one fast streamer and CTT Deputy Director Jon Harding.

130. My team and PA continued to work to help the manufacturing of the Penlon, Breas and Smiths devices to succeed. This included commercial work, helping them to source components, work on helping to optimise the production schedule, dealing with productivity and quality issues. So right through to the end of the project there was a lot of detailed and difficult work being done on a day-to-day basis, but it no longer involved the big decisions which were driving the project at the beginning.

Contracts with Suppliers

131. As I have said above, in the Ventilator Challenge we sought to design and produce ventilators from scratch as well as scaling up production of ventilators that already had approval:

a. Where we were designing and producing ventilators from scratch, we entered into the Design Contracts (for design services) and gave letters of

intent/commitment and/or placed conditional orders with the proposed manufacturers.

b. Where we were assisting with scaling up manufacturing of an existing product, at an early stage we placed conditional orders (in the case of Penlon) or gave a letter of comfort (in respect of Breas Medical Limited), or letter of commitment (in the case of Smiths Medical International, and Helix Diamedica) We later placed orders with Penlon, Breas and Smiths (as to which see below paragraphs [142-145])

132. The Cabinet Office entered into the Design Contracts with Cambridge Consultants[67], Team Consulting[68], Unipart[69], Sagentia[70], Metlase, TTP[71] and PA[72].

133. Very broadly, the terms of the Design Contracts included:

a. **Term and termination**: the design contracts were deemed to have commenced on 13 March 2020 and continued until terminated. The CO could terminate the contract on 2 days' notice.

b. **Services purchased**: the supplier was required to provide design services with the aim of developing a ventilator meeting the MHRA specification which was attached to the contract.

c. **Timeframes**: there were no specified time frames for delivery, although the suppliers had been instructed to act on an urgent basis.

d. **Payment**: payment was on a time spent and materials basis at the rates in the contract. The contracts included an overall cap on costs.

e. **Intellectual property**: the supplier transferred the rights in any intellectual property created under the contract to the CO. The contracts did not transfer any pre-existing IP. The CO was granted a broad licence to use any pre-existing IP of the supplier needed to make use of the new design, subject to the Government paying appropriate compensation. The supplier was

[67] DW/074_INQ000512990 dated 27 March 2020
[68] DW/075_INQ000563407 dated 27 March 2020
[69] DW/076_INQ000563409 dated 8 April 2020
[70] DW/077_INQ000563406 dated 1 April 2020
[71] DW/078_INQ000563408 dated 27 March 2020
[72] DW/079_INQ000563405 dated 20 April 2020

required to notify the CO where it is aware of third party IP which may be relevant to use of the new design, but CO was responsible for acquiring any necessary third party licences or other authority to use the design.

f. **Warranty**: the supplier warranted that the services will be provided with reasonable care and skill and in accordance with good industry practice. They did not warrant that their design would be successful in meeting the requirements of the ventilator project.

g. **Indemnity**: the CO gave a broad indemnity to the supplier to cover any loss or damage suffered by the supplier resulting from IP infringement and/or arising from use of the design (i.e. product liability). See further paragraphs [149-159] below in relation to indemnities.

h. **Limitation of liability**: the liability of the CO under the contract (including the indemnity) was unlimited. The liability of the supplier was capped at the greater of 1.5x the fee and £500K.

i. The contract was subject to the CO short form terms and conditions[73], with some modifications.

134. In addition to the Design Contract, Sagentia and the Cabinet Office entered into a side letter[74], under which the CO granted Sagentia a non-exclusive licence to commercialise the ventilator designs generated under Sagentia's Design contract on terms that required royalty payments to be paid to the government where those designs were exploited outside the NHS. The side letter also provided that the indemnities which applied to supply of services under the Design Contract would not apply where the designs were used outside the NHS.

135. As I have set out above, design of ventilators and preparations for manufacture were happening in parallel. This means that things like the sourcing of materials and parts, the manufacturing requirement, and supply chain issues, were being understood and worked on whilst the design phase was still going on. The Design Contracts only covered design services. In relation to the work that was being done on the manufacturing process, formal correspondence was issued to the selected suppliers. Our commercial objective was to support the delivery of the projects at

[73] DW/080_INQ000562722
[74] DW/077_INQ000563406 page 15-17

pace, we were responding at pace to the commercial needs of the projects as they arose, therefore we did not create a detailed contracting strategy for when to issue a letter of intent as opposed to letter of commitment:

a. A confirmation of order was issued to Penlon Medical, because it already had a potentially viable ventilator design built from pre-existing modules contained in other established products, so was more straightforward than the other suppliers' proposals.

b. A letter of comfort was issued to Breas Medical Ltd on 27 March 2020. Breas had two existing products (the Vivo 65 and Nippy 4) which met the RMVS specification, and the letter of comfort recorded the CO's commitment to fund costs of the expansion of production capacity through the establishment of two additional production lines. Very shortly after issue of the letter of comfort, DHSC placed an order with Breas Medical Ltd by a purchase order dated 1 April 2020[75] (see further paragraph [] below).

c. Suppliers who were producing an entirely new design were generally issued a letter of commitment. The exceptions to this were Dyson and BAE who were issued with documentation described as "conditional order" and "contingent order" respectively, and Sagentia whose letter was headed "*RE: Mosquito ventilators – Intention to order 10,000*" and referred to "*confirmation of our intent to purchase an initial 10,000 units*":

    i. As I understood it at the time, it was important to Dyson that the documentation that was issued to Dyson was described as an order, so we described it as a "conditional order" but it was not different in substance to the letters of commitment issued to other suppliers of new designs in that the order was conditional on Dyson's CoVent product gaining clinical and MHRA approvals and on a suitable commercial agreement being reached. I was aware at the time that there were political sensitivities around Dyson because (as I understood it) James Dyson was a donor to the conservative party. I was also aware that the Chancellor of the Duchy of Lancaster had asked Gareth Rhys Williams to proceed at pace with the Dyson order, but in fact on the Ventilator

[75] DW/081_INQ000563404

Challenge we were seeking to accelerate all the projects as quickly as possible.

ii. I don't know (or can't now remember) the reason why BAE's letter was described as a conditional order, but my understanding is that it was not different in substance from the letters of commitment sent to other suppliers, the intention was to give them the confidence to pursue their project in the same way as with the other suppliers. BAE joined the ventilator challenge at a later stage than the other projects and was first considered at the TDA on 6 April 2020.

iii. I don't know (or cannot now remember) the reason why Sagentia's letter was not headed "letter of commitment", but my understanding is that it was not different in substance from the letters of commitment sent to other suppliers.

136. The correspondence issued to the different selected suppliers is summarised in the table below. All of these letters would have been signed by Gareth Rhys-Williams, but I and others in my team drafted them. Please note that this table has been put together with copies of documents identified by my legal team - I do not now have any independent recollection the detail of what correspondence was sent to whom and when:

Supplier/ Device	Type of Engagement Document	Date Issued	Key Terms
Penlon ES02	Confirmation of Order[76]	26 Mar 2020	• Cabinet Office has already supplied Penlon with £1,346,000.00 to cover set-up and liquidity costs and an additional £5,103,450.00 for the long lead time components to be used for manufacturing these and future units. • Cost of these parts shall be offset against the price of the units delivered and invoiced for, and shall

[76] [DW/021_INQ000480110].

			remain the property of the Authority until such time as the offset takes place. Invoice payment is contingent on adherence to the embedded Output Manufacturing Plan, with the last delivery invoice to be placed no later than w/c 4 May 2020. • Order on standard NHS terms
Penlon ES02	Confirmation of Order[77]	29 March 2002	• Please receive this order for a further 10,000 units • The Ventilators will be supplied subject to the NHS terms and conditions (purchase order version) for the supply of goods • Penlon Ltd shall ensure that the Ventilators have all necessary approvals from MHRA. • The price of the Ventilators supplied under this Order will be calculated on cost plus 15% mark-up basis • Cabinet Office to provide advance payment to enable Penlon Ltd to facilitate the sourcing of certain component parts, mobilisation costs and associated long lead time components. • Advance payment shall be set-off against amounts due from the Cabinet Office under the Order • Penlon to transfer title to components to CO
Smiths Medical Parapac	Letter of Commitment[78]	23 Mar 2020	• Commitment to purchasing 5,000 units of the Parapac

[77] DW/083_INQ000563413
[78] [DW/084_INQ000477913].

			model, which meets the RMVS specification v2.1 and regulatory approval. • Reserve a subsequent up to 5,000 units, to a potential total of 10,000. • Subject to an appropriate price proposal in line with current prices paid by the NHS for these units.
Dyson / TTP Covent	Contingent order letter[79]	25 Mar 2020	• Offer contingent on MHRA approval of device. • Offer contingent on suitable commercial agreement on, inter alia, price can be reached. • Offer based on assumption Dyson will commence production by 13th April 2020.
Babcock /Draeger Zephyr+	Letter of Commitment[80]	26 Mar 2020	• *CO commits to purchasing 10,000 units of the Zephyr Plus ventilator model, subject to meeting the RMVS specification v2.1 and regulatory approval* • *Subject to an appropriate price proposal. CO proposes working on an open book basis with appropriate allowance for overheads*
Sagentia Mosquito	Letter of Intent[81]	26 Mar 2020	• *CO confirms intent to purchase an initial 10,000 units* • *Assuming:* • *Production to commence as soon as possible and begin delivery by 18 April 2020.*

[79] [DW/085_INQ000477912].
[80] [DW/086_INQ000477918].
[81] [DW/087_INQ000477914].

			• *Product to meet clinical/regulatory approval* • *Appropriate commercial agreement met.* • CO to pre-pay for components and/or set up costs which will accelerate ventilator production. • These costs will be netted from invoices for the units and would remain the property of the crown until put into ventilators purchased.
Team Jarrehead Revision of Diamedica Helix	Letter of Commitment[82]	26 Mar 2020	• CO commits to purchasing 13,570 units of the Jarrehead ventilator model, subject to meeting RMVS specification and regulatory approval. • This is subject to an appropriate price proposal
Diamedica/Crimino Helix	Letter of Commitment[83]	26 Mar 2020	• *CO commits to purchasing 5,000 units of the Diamedica Helix ventilator product.* • *CO would like to reserve a subsequent 25,000 units, to a potential total of 30,000 units.* • *CO to cover costs associated with time and out-of-pocket expenses related to work supporting Diamedica in set-up.* • *This is subject to an appropriate price proposal from you for the manufacture and test of the product whose*

[82] [DW/088_INQ000477915].
[83] [DW/089_INQ000477916].

			specification has been provided by Diamedica
Diamedica/Crimino Helix	Commercial Cover for Supply Chain Letter[84] Issued to Plexus	27 March 2020	• RE: Sourcing components for the build of Helix ventilators. • CO intends to place an order for up to 30,000 ventilators. • Expectation for a first order for 8,000 for delivery before 17th April. • CO authorises Plexus to commence purchasing components necessary to produce the Helix and preparing assembly to the value of £10 million. • On completion of contract, materials costs will be included in the price of the goods. • If we do not proceed to manufacture, HMG will in the first instance ask for return of components to the supply chain if possible (meeting any shortfall and receiving any surplus). • If they cannot be returned to the supply chain, HMG will pay for the items and take ownership.
Breas Medical Ltd Vivo65 & Nippy4+	Letter of Comfort[85]	27 March 2020	• CO commits to purchasing 1,000 units each of the Vivo 65 model and Nippy 4 model, as it meets the issued Rapidly Manufacture Ventilation Supply (RMVS) specification v2.1 and

[84] DW/090_INQ000477238 This was issued to Plexus, the intended manufacturer, to authorise spend up to £10m to purchase the necessary components
[85] [DW/091_INQ000480112].

			regulatory approval from the MHRA. ● CO commits to enabling the expansion Breas production capacity through the establishment of two additional production lines, ● Start-up costs to be recoverable should the additional production capacity of the products not be realised.
Darwood IP Blue Sky	Letter of Commitment[86]	27 March 2020	● *CO commits to purchasing 5,000 units of the Remora production model, subject to gaining MHRA approval.* ● *Potential future orders subject to the successful MHRA testing and approval* ● *Delivery of the initial 5,000 units by 10 April 2020.* ● *Open book accounting and a cost plus pricing structure of unit cost plus15% profit.* ● *Any pre-payment for set-up and component costs shall be offset against the price of the units delivered and invoiced for, and any parts shall remain the property of the CO until such time as the offset takes place.*

[86] [DW/092_INQ000477919].

KCL/Oxford University OxVent	Letter of Commitment[87]	29 Mar 2020	• *CO commits to buying all volume supplier can produce by the end of 17th April 2020, up to an initial limit of 6000* • *Subject to MHRA approval* • *Subject to open book accounting and a cost plus pricing structure of unit costs plus a profit rate to be agreed, capped at 15%.* • *Any pre-payment agreed for set-up and component costs shall be offset against the price of the units delivered and invoiced for, and any parts shall remain the property of the CO until such time as the offset takes place.*

OES Medical Gemini	Letter of Commitment[88]	30 April 2020[89]	• CO agreed to place an order of 1000 units of the Gemini contingent on
			  • Gemini gaining necessary clinical and MHRA approvals by 08.06.20;
			  • Suitable written commercial supply agreement;
			  • Delivery of the first 100 units on or before w/c 15.06.20
			• Advance payment to enable sourcing of certain long lead time component parts

[87] [DW/093_INQ000477260].

[88] DW/094_INQ000562739, DW/095_INQ000563426. The letter of commitment was later rescinded when the Gemini project was stopped on 2 June 2020, see DW/096_INQ000562751.

[89] In the course of preparing this statement my legal advisers have identified documents DW/043_INQ000477923, and DW/044_INQ000477924 which appear to be a draft letter of commitment and a draft contingent order addressed to Gemini. I have no independent recollection of what was sent to Gemini, but based on a review of my email inbox, I do not believe that these were ever sent to Gemini.

			• Advance payment to be set off against amounts due under any order. • CO to own components purchased with advance payments. • Provision for recovery of component costs if order does not go ahead
Plexus Re Apollo	Letter of Commitment[90]	2 April 2020	• *All non-recurring expenses and project start-up costs related to the support and planning offered around the Apollo design to-date will be covered.*

BAE Systems Florence	Contingent Order[91]	Dated 2 April 2020, sent 3 April 2020[92]	• CO would like to purchase all the Florence units BAE can produce up to and including 19th April, up to a maximum of 4,000 contingent on:
			  • Florence product gaining clinical MHRA approvals.
			  • Suitable commercial agreement including on price to be reached.
			• If product does not pass MHRA tests, CO to cover reasonable costs of components.
			• BAE to offer assistance in mitigating costs including by returning components.
			• CO would like to be updated daily as to production schedule.

137. The letters of intent and commitment stated that the Cabinet Office was committed (in the case of letters of commitment) or intended (in the case of the letter of intent) to purchase ventilators if they met the RMVS specification and obtained

[90] DW/097_INQ000562725
[91] DW/098_INQ000533273
[92] DW/099_INQ000562744, DW/098_INQ000533273, DW/101_INQ000563095

regulatory approval from the MHRA. The letters of comfort offered comfort that the Cabinet Office would meet the supplier's costs. The commitments provided by the various letters were to enable the suppliers to support the Ventilator Challenge at significant pace and to prevent those suppliers from operating entirely at risk during extremely turbulent and challenging circumstances.

138. Some of the letters expressly set out that:

a. If a device had received approval and ventilators could be delivered by a specified date, then we would buy a specified number of ventilators from the relevant supplier; and/or

b. CO would cover time costs and out of pocket expenses in relation to manufacturing set up costs; and/or

c. The CO would pre-pay for components and/or set up costs to accelerate ventilator production. These costs would be netted from invoices for the ventilator units; and/or

d. Components pre-paid by CO would remain the property of the crown until put into units we have purchased; and/or

e. Terms to be agreed would include open book accounting and/or pricing structure of costs plus 15%.

139. Irrespective of whether it was set out expressly in the formal correspondence, this was the basis on which the CO intended to operate in the Ventilator Challenge, and this was communicated to the suppliers whether or not it was set out in the formal correspondence.

140. We also issued formal correspondence to suppliers of other services as follows:

Supplier	Services	Type of Engagement	Date	Terms Include

BSI Group	Quality Control	Letter of Commitment[93]	6 April 2020	• CO commits to covering costs associated with open book time and materials. • Cover up to an initial value of £100,000. • Subject to providing certain financial information.
BSI Group	Quality Control	Letter of Comfort[94]	21 April 2020	• CO commits to covering costs associated with open book time and materials. • Cover up to an initial value of £200,000.
UCL	CPAP Devices	Letter of Commitment[95]		CO commit to purchasing a proof of principle early manufacturing run of up to 100 devices, subject to MHRA approval, dependant on how many devices you want to test in UCL hospitals. Subject to agreement on prices - pricing for the units to be in line with current prices paid by the NHS for these

[93] DW/102_INQ000562756
[94] DW/103_INQ000562724
[95] DW/104_INQ000562727

				units.

141. The Minister for the Cabinet Office entered into manufacturing contracts with Plexus[96] and Cogent Technology[97] on 2 April 2020 for manufacture of a number of pre-production samples and testing samples of mechanical ventilators designed by the Ventilator Challenge ("Manufacturing Contracts"). The Secretary of State for Defence entered into a contract with Babcock on similar terms on 10 April 2020.[98] The Manufacturing Contracts contained the following terms which may not otherwise have been included but for the urgency of the pandemic:

a. Clause 5.4 required the manufacturer to give the UK Ventilator Program first priority use of its manufacturing capacity if the CO has committed to paying Set-Up Costs.

b. Clause 6 made provision for the exceptional circumstances of the pandemic including:

i. Clause 6.1.1 recognised that there may be a shortage of supply of Component Parts. Accordingly, the Manufacturer agreed to take all reasonable steps to safeguard and protect all stocks of Component Parts held by it from time to time which may be required to manufacture the Products,

ii. By Clause 6.1.2 the parties agreed that in the exceptional circumstances of the pandemic may mean that it is necessary for the Customer to involve itself in the Manufacturer's inbound supply chain for materials and Component Parts.

iii. By Clause 6.1.3 the Manufacturer agreed to provide transparency to the CO to ensure that the CO had sufficient visibility of the Manufacturer's production processes and timelines for the manufacture and supply of

[96] DW/105_INQ000563410
[97] DW/106_INQ000563445
[98] DW/107_INQ000563402. My team were not involved in negotiating or drafting the contract between Babcock and the MOD, but I was aware of it at the time because we had a commercial liaison with the Babcock project.

Products to allow it to plan and adjust order scheduling across the CO's supply chain for products equivalent to or similar to the Products

iv. By Clause 6.1.4 the Manufacturer was obliged to notify the CO promptly of any exceptional events or circumstances which may impact upon the Manufacturer's ability to deliver Products in accordance with the Delivery Dates. CO was entitled to cancel all or part of an order If there was a delay in manufacturing and supplying any of the Products;

v. By Clause 6.1.5 where an order was cancelled because of delay or where products failed to obtain approval, CO was required to repurchase component parts from the manufacturer and also had a right to purchase any tooling.

c. Clause 12 contained provisions as to product liability including provision for the CO to indemnify the Manufacturer in relation to product liability claims. The indemnities are discussed further at paragraph [149-159]. Broadly, as long as the products were manufactured in accordance with the specification, CO agreed to indemnify Plexus against product liability claims.

d. By Clause 13 the CO agreed to pay Set-Up Costs and recognised that CO may have to provide further funding to support the Manufacturing purchasing obligations for Component Parts not covered by the Set-Up Costs.

e. By Clause 20 the CO agreed to indemnify the Manufacturer in respect of claims made by third parties for actual or alleged infringement of a third party's Intellectual Property Rights. These IP indemnities are discussed further at paragraph [149-159] below

142. The Cabinet Office placed two orders for supply of ventilators by Penlon. Negotiation of the contract was led within my team by Steve Jones. The first was for Prima ES02 ventilators with a contract value of £30,770,000; the second was for Prima ES02 ventilators with a contract value of £105,230,000. The terms of the orders included as follows[99]:

a. *Order dated 26 March 2020*[100]*:*

[99] The terms are summarised in DW/108_INQ000563412
[100] DW/021_INQ000480110

I. *CO ordered ES02 emergency ICU ventilators at a total cost of £30,770,000 (ex. VAT);*

II. *Set up and liquidity costs £1,346,000 and the cost of the long lead time components £5,103,450 already paid by CO to Penlon to be offset against the price of units delivered and invoiced; and*

III. *delivery of the ventilators in accordance with the Output Manufacturing Plan set out in the Order Form.*

IV. *Order subject to NHS Terms and Conditions (purchase order version) for the supply of goods*[101].

b. *Order Form dated 29 March 2020*[102]*:*

i. *CO ordered an additional 10,000 units of ES02 emergency ICU ventilators (Air Driven Variant);*

ii. *Price to be calculated on a cost plus a 15% mark-up basis (with no mark up on pass-through costs) as per the formula described in the Order Form;*

iii. *Advance payments by CO to Penlon to source component parts, to be set-off against amounts due from CO under the Order. Penlon to transfer title in the relevant component parts to CO (where transfer of title will not prevent Penlon from manufacturing and supplying the ventilators) and title in the components will transfer back to Penlon at the point of supply of the ventilators;*

iv. *Penlon may recover mobilisation costs and associated long lead time component costs, up to the value of £32,100,000. The cost of these long lead time components shall be offset against the price of the ventilator units delivered and invoiced;*

v. *Delivery of the ventilators in accordance with the schedule.*

[101] DW/110_INQ000562732
[102] DW/083_INQ000563413

143. There was a separate Penlon Deed of Indemnity dated 12 April 2020.[103] Indemnities are discussed further at paragraph [149-159].

144. Two contracts were awarded to Smiths Medical (negotiation of the contract was led within my team by Stephanie Wells)[104]:

a. On 29 May 2020, the Minister for the Cabinet Office ordered ParaPac plus Model 300 Ventilators from Smiths Medical[105], with a contract value of £34,007,542. The order was subject to:

i. the Terms and Conditions for the Supply of Ventilators in a National Emergency[106]; and

ii. the Deed of Indemnity Regarding the Production of Ventilators in a National Emergency between the CO and Supplier, among others, dated 13 April 2020.

b. On 1 June 2020[107] the Minister for the Cabinet Office placed a further order for ParaPac plus 310 ventilators, plus breathing circuits for use with the Parapac ventilators with a contract value of £1,793,373. The ParaPac 310 is an enhanced variant of the 300 model.

145. A fifth contract was entered into by DHSC with Breas Medical by a purchase order dated 1 April 2020[108]. DHSC entered this contract, not the Cabinet Office, because it was a call-off under an existing DHSC framework. The key terms included as follows[109]:

a. *Parties: the contract is between the Department of Health and Social Care ("DHSC")1 and Breas Medical Limited ("Breas").*

[103] DW/111_INQ000563447
[104] As far as I recall, the Smiths order took some time to negotiate, which I believe explains the delay between the letter of commitment on 23 March 2023 and placing of the orders on 29 May and 1 June 2020.
[105] DW/112_INQ000504096. The terms are summarised in DW/113_INQ000562728
[106] DW/114_INQ000562733, DW/115_INQ000562731
[107] DW/116_INQ000563415
[108] DW/081_INQ000563404
[109] See summary of purchase terms DW/117_INQ000563411

b. *Purchase Order dated 01 April 2020: The Purchase Order sets out the key commercial terms being:*

- *CO commits to purchase 1,000 units of Nippy 4+ ventilators; and 1,000 units of Vivo 65 ventilators ;*
- *the ventilators have a shelf life/expiry date of 4 years; and*
- *the ventilator delivery schedule is set out in the Purchase Order.*

c. *Price inclusive of delivery: The contract price includes delivery, but does not include installation or maintenance services.*

d. *Intellectual property: the supplier grants an irrevocable, royalty-free, non-exclusive licence to CO (with the right to sub-licence) to use its IP as needed to make use of the goods delivered.*

e. *Warranty: Breas gives a large number of warranties including in relation to their quality controls, and that the goods will be of satisfactory quality and fit for purpose.*

f. *Regulatory position: the contract requires that all ventilators supplied have CE markings. Breas must maintain any authorisation, registration or approval (including CE marking and/or marketing authorisation) required in relation to the ventilators.*

g. *Indemnity: Breas provides an uncapped indemnity to CO for death or personal injury caused by Breas's negligence or breach of contract, where the ventilators are not delivered in a good and useable condition, where Breas engages in unlawful or unauthorised processing of personal data and for IP infringement.*

h. *Limitation of liability: the liability of each party under the contract (excluding the above indemnity) is capped in aggregate to the greater of (a) £5,000,000; or (b) 125% of the total price.*

146. As stated above, in addition to the purchase order by DHSC dated 1 April 2020[110], Breas was issued a Letter of Comfort dated 27 March 2020[111], in which the CO recorded its commitment to enabling Breas to expand its production capacity

[110] DW/118_INQ000497269 at column I, row 13.
[111] DW/091_INQ000480112

through the establishment of two additional production lines at the Breas factory in Sweden to produce the additional volume needed for the NHS. Breas was already commissioning one product line to make the new products. We asked Breas to commission a second line and dedicate it to our orders. This line was set up in Sweden because Breas Medical had accredited facilities in Sweden which were ready for manufacture. My team was responsible for drafting the relevant documentation with support from the Government Legal Department who did a great job.

147. Members of my team helped prepare the Contract Award Notices published by the Crown Commercial Service. We published Contract Award Notices on 21 May 2020,[112] 24 August 2020,[113] 31 December 2020[114] and 28 February 2023. Corresponding Contracts Finder Notices were published on 27 May 2020, 29 June 2020, 11 January 2021, 24 February 2023 and 28 February 2023.[115] My team helped prepare these notices published by CCS on their system. The Contract Finder Notices dated 28 February 2023 record that at the time of the earlier CANs, in order to be as transparent as possible with the market, information available at the time of entering into those commitments was provided, notwithstanding that it was expected to take several months to settle on the final output and resulting contracts. The earlier CANs were therefore published to notify the market of the estimated and maximum limits of the commitments the Cabinet Office had entered into to support the RMVS project. Where there was an increase to the estimate or cost cap previously notified to the market a further CAN was published. Most of the Contract Finder Notices dated 28 February 2023 are in this category of second (or in the case of the contract with Sagentia, third) notices notifying that the costs had exceeded the estimated/maximum previously given. The delay in publishing the CANs and Contract Finder Notices was principally due to workload and I initially overlooked the need to provide updated information about costs and the other information published in February 2023 as, in the later stages, the focus was on winding down the programme.

Pandemic-Unique Clauses

[112] DW/119_INQ000477285
[113] DW/120_INQ000471054
[114] DW/121_INQ000471053
[115] See DW/122_INQ000409844 for links to contracts finder

148. I have been asked to identify and set out any unique clauses in Ventilator Challenge contracts which would not have otherwise appeared but for the urgency created by the pandemic. I can think of the following examples:

a. Indemnities (see further paragraphs [149-159] below).

b. The approach to spending and risk (see further paragraph [160] below)

c. I have identified above (paragraphs [135]) terms relating to CO making pre-payment for components and/or set up costs in order to accelerate ventilator production.

d. Clause 6 of the Manufacturing Contracts (set out in full above paragraph [141]), was designed to address possible shortages of ventilator components during the pandemic. There were similar terms the Terms and Conditions for the Supply of Ventilators in a National Emergency (see Schedule 5 Clause 2), which applied to the Contract with Smiths.

e. I have set out at paragraph [141] above some other terms of the Manufacturing Contract with Plexus that were adapted to the urgency created by the pandemic. Clause 13 and Clause 6 together had the effect that we were paying for parts before we knew whether the relevant projects would result in a successful ventilator. That enabled the parties contracting with to have confidence in buying parts (i.e. that they would not be out of pocket if we did not order their ventilator) and allowed us, in the event that the relevant project did not succeed to use those parts if needed for another project.

Indemnities

149. The Design Contracts (mostly dated 26 March 2020) contained 2 indemnities:

a. Indemnity in respect of third party Intellectual Property Rights for the Designers and Contract Manufacturers of RMVSs (IP indemnity). See further paragraph [].

b. Indemnity in respect of product liability ("Product Liability indemnity").

150. The Manufacturing Contracts with Plexus[116] and Cogent Technology[117] dated 2 April 2020 for manufacture of a number of pre-production samples and testing

[116] DW/105_INQ000563410
[117] DW/106_INQ000563445

samples contained a similar IP indemnity and Product Liability Indemnity (see further paragraph [141])[118].

151. Further indemnities were granted to two members of the BlueSky consortium; Formula One Management Ltd and Olympus KeyMed. These indemnities were given by the close down letter dated 27 July 2020 sent to the members of the consortium.[119] These were of the same type (Product Liability Indemnity[120] and IP indemnity[121]) as those given previously in the Design Contracts and Manufacturing Contracts.

152. The CO entered into 2 Deeds of Indemnity Regarding the Production of Ventilators in a National Emergency between the CO and:

a. Penlon[122] and other suppliers in the Penlon consortium dated 12 April 2020.

b. Smiths[123] and other suppliers in the Smiths consortium dated 13 April 2020.

153. By the 2 Deeds on Indemnity CO gave indemnities to the consortium members in respect of:

a. Product liability (see Clause 3.1 to 3.6).

b. Potential infringements of third party IP rights (see Clause 3.1 to 3.6).

c. Procurement Law Liability (see Clause 3.7).

154. As indemnities are treated as a contingent liability under Managing Public Money, there was a requirement to notify Parliament.

155. Submissions were sent to the Cabinet Office Ministers on 26 March 2020[124] and 19 June 2020[125] recommending that these indemnities were granted and that

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[118] There were similar terms in the manufacturing contract between MOD and Babcock dated 10 April 2020 My team were not involved in negotiating or drafting the contract between Babcock and the MOD, but I was aware of it at the time because we had a commercial liaison with the Babcock project.
[119] DW/123_INQ000563403
[120] See paragraph 10.
[121] See paragraph 11.
[122] DW/111_INQ000563447
[123] DW/124_INQ000504085
[124] DW/125_INQ000562729
[125] DW/126_INQ000562730

the non-standard notification process be followed, enabling these indemnities to be formalised without giving the usual 14 sitting days notice.

156. The risk that gave rise to the need for the product liability indemnity was that the nature of these devices and their intended purpose meant that failure could potentially cause significant personal injury or death. However, many of the companies offering help and support through the manufacturing process (in order to further the public good) were not companies accustomed to manufacturing products which carried such risks, nor would it be equitable or reasonable to expect them to take those risks on (particularly in light of the fact that many of these manufacturing companies had "deeper pockets" than the medical equipment companies supplying the designs, therefore were likely to be pursued in the event of any personal injury litigation).

157. Further, where we were asking the participants to design new ventilators in a very short timeframe, there was limited time to undertake due diligence to ensure that the ventilators did not infringe the intellectual property rights of any third party. There was a risk that third party IP could potentially be infringed through the design and manufacture of the new RMVS ventilator designs where, for example, the design encroached on any pre-existing patents, copyright or design rights and also modifications of existing designs.

158. The risk of procurement law liability arose because the ventilators were not procured using a normal competitive process. There was simply no time to do so in light of the emergency circumstances of the pandemic.

159. The indemnities were presented to Parliament in April 2020[126] and June 2020.[127]

Approach to Spending and Risk

160. Another feature of the contracts developed through the Ventilator Challenge was the way that they approached spending and risk. In a traditional contractual process you would (for example) specify a number of units that you wanted to have available by X date at Y cost. In the Ventilator Challenge the expectation was that

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[126] DW/127_INQ000471012
[127] DW/128_INQ000471015

the participants would keep spending money (overseen by Ventilator Challenge team members) and keep us informed of their progress, until we told them to stop spending money (which would happen when the TDA assessed that the project would not deliver in line with requirements). Because we were attempting to ensure as many successes as possible through the process, we were happy to spend money on things which in the end did not result in a viable product, so long as that spending was stopped at the point it became clear it was not going to yield the right result. This process was analogous in many ways to that adopted for vaccine development, whereby supporting every potentially viable route to a vaccine was important to ensure that the quickest route to having a vaccine available was the route which was followed.

Challenges, Good Practice and Lessons Learned

161. I have been asked by the Inquiry to comment specifically on a quotation by Rob Davies which is taken from a wider article dated 4 May 2020 entitled 'The inside story of the UK's NHS coronavirus ventilator challenge'. The particular quote to which my attention is drawn states as follows:

> *"The inside story of what happened in this period is one of early panic and confusion, of companies with expertise clashing with those seizing the limelight with ambitions to innovate, of questionable designs, and the desperation of a government setting targets and then deciding it didn't need to meet them after all."*

162. I have been asked whether I agree with this quotation. I disagree strongly with it and consider it to be a naïve view. It is certainly not my experience that there was any "early panic and confusion". What we were doing in the early days was getting the right expertise paired with the right capabilities so we could move with all possible speed.

163. It is also unfair, in my view, to talk about the government abandoning targets as Mr Davies does; what happened in fact is that over time people understood more about the most medically efficacious ways to treat Covid-19, and as a result of that mechanical ventilation became less important, which led to the change in targets.

164. Overall, I think the quoted remark is a really unfair characterisation of the Ventilator Challenge which I believe was a brilliant example of how, with a singular purpose, it is possible to innovate at scale quickly, and how government and wider industry can be incredibly creative in meeting a huge challenge.

165. The idea that anything which begins under that degree of time pressure is not going to look slightly messy at the outset is unrealistic. Plans and systems were being drawn up in parallel to taking action, as this was the most efficient way to get to the end point of ensuring a sufficient supply of ventilators.

166. Not having everything meticulously planned out in advance was a feature of the Ventilator Challenge, not a bug, in terms of the way that we did things.

167. In this context it is important to note that even within the Ventilator Challenge, there were a number of different "types" of projects which were being pursued; for example Penlon already made anaesthesia machines, so they had a device they thought they could alter, Smiths Medical made an emergency ventilator for inside ambulances which they thought they could scale production of, and at the far end of the spectrum you have people who have the skills and expertise to design and manufacture these things from scratch.

168. The companies who were approached, and with whom we progressed through the challenge, were approached on a well thought out basis. We were not just asking random strangers if they had any good ideas.

169. I also did not at all get the sense that companies were "clashing", rather that the whole project was incredibly collaborative. It should be emphasised that we approached the Challenge from the starting point of wanting all viable projects to succeed, as opposed to a more traditional process where you might be looking to select a "winner". We were very wary of the potential delays which might be caused if, for example, companies were in competition to try to acquire the same parts from a limited supply. We asked for bills of materials to try to understand the needs of the various projects so that we could help to co-ordinate so that everyone had the materials they needed. We were focused on making sure that companies were not in direct competition, and in fact could work together where appropriate (for example by sharing testing equipment).

170. I do not think it is a fair characterisation of the Challenge participants to suggest that there was any attempt to 'seize the limelight'; my clear impression was of people working to the singular purpose of trying to meet this challenge in the interests of the nation. I believe that to have been one of the things which kept everybody involved in the Challenge going during an incredibly difficult time – we all felt as though we had an important purpose, and the autonomy and ability to do things in the best possible way and to find the best possible solutions. Linked to that was the feeling that even small successes within the Challenge (such as tracking down a hard to source part, or several devices passing through a significant stage of the process), were widely celebrated. I got the sense that this feeling of being a part of something important and contributing to the national effort was felt not only in the centre, but also in the factories and the design labs.

171. Mr Davies also mentions "questionable designs" – again, I don't think that is fair, or true. We filtered out, at the very early stages, anything which was not going to meet requirements, or was over-ambitious compared to the skills and expertise of the person proposing it. Anything which was being proposed by someone, however well meaning, who did not have the technical expertise to be innovating in this area, was not progressed. In any event, based upon what we were trying to achieve, even the designs which were filtered out at very early stages of the process were not ridiculous ideas. None of the designs we actually ended up with were in any way questionable, they were all certified by the MHRA as emergency use ventilators. Now of course it may well be the case that an ICU doctor faced with the need to mechanically ventilate a patient would prefer to use, for example a multi-functional GE Healthcare, Siemens or Phillips ventilator which has significant additional functionality to the models we were looking at, but we were anticipating a need for potentially tens of thousands of units to be sent all over the country for use. For reasons I have already set out, that turned out not to be necessary as mechanical ventilation became less important in the fight against Covid-19.

172. I would also point out that Mr Davies was writing in early May of 2020 (i.e. before the Challenge itself had concluded).

173. I have been asked about whether I consider the fact that the UK did not join an EU procurement scheme for ventilators in the early stages of the pandemic had any impact on the work of the Ventilator Challenge. The short answer is I do not believe it could have had any impact whatsoever. I understand that the EU procurement

scheme was aimed at procuring commercially available ventilators, which was completely different to what the Challenge was doing.

174. Mechanical ventilators are by their nature not a high-volume manufacture product, and there just were not going to be the numbers we were seeking available by commercial routes. That was the thinking behind the twin track approach, the Challenge aspect of which was unrelated to the purchase of commercially available supplies. I cannot comment on what the commercial sources would have been able to produce, or on any impact that joining or not joining an EU procurement scheme might have had on this – this may be something which DHSC can comment on.

175. I have also been asked to comment on whether I consider that anyone or any company received preferential treatment as a result of their status as a donor of or with a connection to the Conservative Party in relation to access to the system for procurement; and award of contracts. I absolutely do not consider that to have been the case. It is important to emphasise here that we were looking at the purchase of machines which could very easily kill people if they went wrong. We were only going to buy machines which were going to be safe. We gave out contracts on the basis of a design successfully making it through the TDA process.

176. I am aware that the article from the Guardian refers to Dyson. I am also aware that Sir James Dyson was a donor to the Conservative Party:

a. In relation to access to the procurement system, Dyson had manufacturing capability and expertise building machines and components through which air travels and is circulated, so it was wholly realistic to consider that they might have been able to provide practical assistance (just as credible from a manufacturing standpoint as, for example, Ford).
b. In relation to award of contracts, the formal correspondence which went to Dyson was headed "Conditional Order" rather than "letter of comfort"; but as set out above, it was not in substance different from the letters provided to other suppliers. I do not consider that it was preferential treatment.
c. None of the designs within the project on which Dyson was working (which was with TPP as a designer) ended up being built, and Dyson received no money from the Ventilator Challenge. Dyson bore their own costs.

177. I have been asked to comment on how, if at all, my decision-making within the Ventilator Challenge was impacted by the public sector equality duty, or equalities considerations. My role was a commercial specialist and most of my day-to-day decision-making was informed by mainly commercial considerations. However I believe that the overall objective of the Ventilator Challenge – to ensure that no-one who needed a ventilator would go without one – was consistent with the public sector equality duty. If there were enough ventilators for everyone, there would be no question of deciding who would and who would not receive necessary treatment.

178. I have been asked to reflect on good practice, challenges, and lessons learned from the Ventilator Challenge. I would offer the following thoughts:

    a. When trying to meet a big challenge, there is value, instead of sitting back and trying to analyse your way to a solution, to learn your way into the right solution. In the Ventilator Challenge, I believe we got where we needed to be faster and better and cheaper by starting bigger, pursuing more options from the outset, and being comfortable with the fact that more will need to be "turned off" and wound down as we moved through the process.

    b. I believe that a key reason for the success of the Ventilator Challenge was that we were focussed on the end goal and what we had to do to achieve that, rather than following any rigid process or set of rules. We invested those involved in the Challenge with personal responsibility and accountability, and empowered them to drive the project forward toward the end goal and to feel safe in doing so. This was different from the usual culture of the civil service, where there are sometimes very defined or rigid processes and regulations in place (often for good reason). I believe that the approach that we adopted allowed the participants in the Ventilator Challenge to think creatively and to be innovative. Our approach was to ask every day "what problems can we help you solve, what do you need to be successful, what can we do to shave minutes/hours/days/weeks off delivery of a successful product?". This was helped by the fact that I believe the majority of people and firms involved in the Challenge were not in it for the money, but to support the delivery of an important and ambitious goal. I think there are ways of pursuing a similar strategy in other contexts where you all want things to be a success.

    c. Another key lesson from this process was learning to be comfortable with the idea that things going wrong are OK as long as you learn from them. Failures

are an inevitable part of both innovation and trying to do really difficult things. Pretending this isn't the case is naïve. This is absolutely essential in a crisis but I have also taken a lot of that attitude back into my "day job" – that it is OK to admit that you don't know what the best solution is and you are trying things out, so long as you have the discipline to turn things off when you know they aren't working, and then you learn from that to drive the rest of the process forward.

d. As set out above, at the highest level, we managed the challenge of securing enough ventilators by pursuing multiple options and supporting those as far as possible. At the project level, challenges (for example, shortages of parts, or design challenges) were addressed by ensuring these were understood as early as possible and being as creative as possible in meeting them. We tried to ensure that the "best athlete" to solve any particular problem was aligned to it. For example, in this statement I have mentioned McLaren's ability to reverse engineer some required parts.

e. The lessons in innovating at pace and scale have been shared around government. For example, I was asked to present lessons on innovation from the Ventilator Challenge to a cohort of the Major Projects Leadership Academy which trains senior civil servants to lead major government programmes.[128]

f. Following the Covid crisis, some of the lessons were included in the Boardman 2 report.[129]

Statement of Truth

I believe that the facts stated in this witness statement are true. I understand that proceedings may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief of its truth.

[128] DW/129_INQ000562738
[129] DW/130_INQ000055876

Signed: Personal Data

Name: Dan Webster

Dated: 29 January 2025