



COMMONWEALTH OF AUSTRALIA

Proof Committee Hansard

SENATE

ENVIRONMENT AND COMMUNICATIONS LEGISLATION
COMMITTEE

Estimates

(Public)

FRIDAY, 8 NOVEMBER 2024

CANBERRA

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ENVIRONMENT AND COMMUNICATIONS LEGISLATION COMMITTEE

Friday, 8 November 2024

Members in attendance: Senators Bilyk, Darminan, Davey, Duniam, Grogan, Barbara Pocock and Rennick

CLIMATE CHANGE, ENERGY, THE ENVIRONMENT AND WATER PORTFOLIO**In Attendance**

Senator McAllister, Minister for Emergency Management, Minister for Cities

Department of Climate Change, Energy, the Environment and Water**Executive**

Mr David Fredericks PSM, Secretary

Ms Lyn O'Connell PSM, Deputy Secretary

Finance Division

Mr Robert Hanlon, Chief Finance Officer

Ms Jill Mand, Branch Head, Property, Infrastructure and Physical Security Branch

Ms Michelle Crowther, Branch Head, Financial Management Branch

Ms Rachel Harris, Branch Head, Financial Services Branch

Environmental Water and Aquatic Ecosystems

Dr Simon Banks, Division Head and Commonwealth Environmental Water Holder

Mr Angus MacGregor, Acting Branch Head, Environmental Water and Southern Basin Branch

Dr Marcus Finn, Branch Head, Environmental Water, Northern Basin and Water Science Branch

Ms Michelle Coll, Acting Branch Head, Environmental Water Policy, Engagement and Wetlands

Portfolio Strategy Division

Ms Michelle Croker, Division Head

Ms Dana Sutton, Branch Head, Ministerial Liaison and Governance Branch

Ms Anita Agett, Branch Head, Communications and Media Branch

Water Infrastructure and Investment Division

Ms Ruth Wall, Division Head

Mr Mark Darrough, Branch Head, National Water Grid Branch

Ms Christine MacRae, Acting Branch Head, Water Recovery Branch

Mr Greg Whalen, Branch Head, Murray Darling Basin Infrastructure Program Delivery Branch

Ms Tanya Koeman, Branch Head, Upper Murrumbidgee and Murray Darling Basin Joint Venture Branch

Ms Lou-Ellen Martin, Branch Head, Water Support and Water Efficiency Labelling and Standards Branch

Mr Mike Peat, Director, Water Recovery Branch

Water Policy Division

Mr Malcolm Southwell, Acting Division Head

Ms Emma Solomon, Branch Head, Water Markets and Regulatory Policy

Mr Brett Ward, Acting Branch Head, Murray Darling Basin Strategy and Policy Branch

Ms Angie McKenzie, Branch Head Strategic Water Policy and International Engagement Branch

Ms Sheryl Hedges, Branch Head, First Nations Water Branch

Mr Phil Coates, Branch Head, Murray Darling Basin, Economics, Evidence and Engagement Branch

Bureau of Meteorology

Dr Andrew Johnson, Chief Executive Officer and Director of Meteorology

Dr Peter Stone, Group Executive, Business Solutions

Ms Nicole Brinsmead, Chief Information Officer and Group Executive, Data and Digital

Ms Astrid Heward, Acting Group Executive, Enterprise Services and General Counsel

Mr Benjamin Haydon, General Manager, Portfolio Management

Mr Michael Logan, General Manager, National Production Services

Mr Robert Argent, General Manager, Research to Operations

Mr Tim Abrahams, General Manager, Organisational Development

Ms Joanna Stone, Chief Financial Officer
Ms Vicki Woodburn, Group Executive, Australian Climate Science
Dr Karl Braganza, National Manager Climate Services

Inspector-General of Water Compliance

The Hon Mr Troy Grant, Inspector-General of Water Compliance
Mr Daniel Blacker, Acting Deputy Inspector-General
Ms Tara Schalk, Acting Assistant Inspector-General, Regulation
Ms Sheridan de Kruiff, Acting Assistant Inspector-General, Oversight

Murray-Darling Basin Authority

Mr Andrew McConville, Chief Executive
Mr Angus Paton, Acting Executive Director, River Management Division
Mr Tim Goodes, Executive Director, Basin Plan Division
Mr Scott Ashby, Executive Director, Basin Science & Knowledge Division
Ms Katrina Tonkin, Acting Chief Operating Officer, Business Services Division
Dr Joseph Davis, Senior Director, River Management Division, River Modernisation
Ms Jack Knowles, General Manager, Communications, First Nations and Strategy
Ms Megan Winter, General Manager, Basin Plan Implementation
Dr Matthew Coleman, General Manager, Applied Science, Basin Science and Knowledge Division
Ms Jacqui Hickey, Executive Director, River Management Division
Dr Joseph Davis, Senior Director, River Modernisation, River Management Division
Ms Kelly Casey, General Counsel, Legal and Governance, Business Services Division
Mr Joel Bailey, General Manager, Applied Science, Basin Science and Knowledge Division

Committee met at 14:02

CHAIR (Senator Grogan): I declare open this hearing of the Environment and Communications Legislation Committee into the 2024-25 supplementary budget estimates. I begin by acknowledging the traditional owners of the land on which we meet and pay our respects to elders past, present and emerging. The committee's proceedings today will begin with the Bureau of Meteorology as part of the Climate Change, Energy and the Environment and Water portfolio. The committee has fixed Thursday, 19 December as the return date for answers to questions taken on notice.

Under standing order 26 the committee must take all evidence in public session, and this includes answers to questions on notice. I remind all witnesses that in giving evidence to the committee they are protected by parliamentary privilege. It is unlawful for anyone to threaten or disadvantage a witness on account of evidence given to a committee, and such action may be treated by the Senate as a contempt. It is also a contempt to give false or misleading evidence.

The Senate has endorsed the following test of relevance for questions at estimates hearings: any question going to the operations or financial positions of the departments and agencies which are seeking funds in estimates are relevant questions for the purpose of estimates hearings. I remind officers that the Senate has resolved that there are no areas in connection with the expenditure of public funds where any person has a discretion to withhold details or explanations from the parliament or its committees unless the parliament has expressly provided otherwise. The Senate has resolved also that an officer of a department of the Commonwealth should not be asked to give opinions on matters of policy and should be given reasonable opportunity to refer questions asked of the officer to superior officers or to a minister. This resolution does not preclude questions asking for explanations of policy or factual questions about when and how policies were adopted. Witnesses are reminded of the Senate order specifying the process by which a claim of public interest immunity should be raised, and I incorporate the public immunity statement into the *Hansard*.

The extract read as follows—

Public interest immunity claims

That the Senate—

(a) notes that ministers and officers have continued to refuse to provide information to Senate committees without properly raising claims of public interest immunity as required by past resolutions of the Senate;

(b) reaffirms the principles of past resolutions of the Senate by this order, to provide ministers and officers with guidance as to the proper process for raising public interest immunity claims and to consolidate those past resolutions of the Senate;

(c) orders that the following operate as an order of continuing effect:

(1) If:

(a) a Senate committee, or a senator in the course of proceedings of a committee, requests information or a document from a Commonwealth department or agency; and

(b) an officer of the department or agency to whom the request is directed believes that it may not be in the public interest to disclose the information or document to the committee, the officer shall state to the committee the ground on which the officer believes that it may not be in the public interest to disclose the information or document to the committee, and specify the harm to the public interest that could result from the disclosure of the information or document.

(2) If, after receiving the officer's statement under paragraph (1), the committee or the senator requests the officer to refer the question of the disclosure of the information or document to a responsible minister, the officer shall refer that question to the minister.

(3) If a minister, on a reference by an officer under paragraph (2), concludes that it would not be in the public interest to disclose the information or document to the committee, the minister shall provide to the committee a statement of the ground for that conclusion, specifying the harm to the public interest that could result from the disclosure of the information or document.

(4) A minister, in a statement under paragraph (3), shall indicate whether the harm to the public interest that could result from the disclosure of the information or document to the committee could result only from the publication of the information or document by the committee, or could result, equally or in part, from the disclosure of the information or document to the committee as in camera evidence.

(5) If, after considering a statement by a minister provided under paragraph (3), the committee concludes that the statement does not sufficiently justify the withholding of the information or document from the committee, the committee shall report the matter to the Senate.

(6) A decision by a committee not to report a matter to the Senate under paragraph (5) does not prevent a senator from raising the matter in the Senate in accordance with other procedures of the Senate.

(7) A statement that information or a document is not published, or is confidential, or consists of advice to, or internal deliberations of, government, in the absence of specification of the harm to the public interest that could result from the disclosure of the information or document, is not a statement that meets the requirements of paragraph (1) or (4).

(8) If a minister concludes that a statement under paragraph (3) should more appropriately be made by the head of an agency, by reason of the independence of that agency from ministerial direction or control, the minister shall inform the committee of that conclusion and the reason for that conclusion, and shall refer the matter to the head of the agency, who shall then be required to provide a statement in accordance with paragraph (3).

(d) requires the Procedure Committee to review the operation of this order and report to the Senate by 20 August 2009.

(13 May 2009 J.1941)

(Extract, Senate Standing Orders)

Bureau of Meteorology

[14:04]

CHAIR: I would now like to welcome the Hon. Jenny McAllister, Minister for Cities and Emergency Management, representing the Minister for the Environment and Water. Minister, would you like to make an opening statement?

Senator McAllister: No, thank you, Chair.

CHAIR: I also welcome officers from the Bureau of Meteorology. Would you care to make an opening statement?

Dr Johnson: I would. I appreciate the opportunity to make a brief statement that I hope will be helpful for the committee today. During 2015 and early 2016, just prior to my arrival at the bureau, the organisation experienced a serious cyber intrusion and a number of major network outages. In 2017, the bureau commenced the ROBUST program to improve the security, stability and resilience of our information and observing systems technologies. I am pleased to report to this committee that on 30 June 2024 the bureau formally closed the ROBUST program. During its life, ROBUST delivered 58 individual projects in over 150 separate scope items, and this represents approximately 90 per cent of the scope originally envisaged when the program commenced in 2017. Key deliverables include: new and upgraded weather radars; flood gauges; automatic balloon launches; and equipment that observes the upper atmosphere. This technology, which is so vital to the forecasts and warnings that all Australians depend upon, is now more secure, more stable and more resilient as a result of the ROBUST program.

ROBUST has also delivered a new disaster recovery supercomputer and new and upgraded software applications that support critical services such as for floods, thunderstorms and tropical cyclones. Importantly, it has also delivered a new bureau website that is currently undergoing beta testing by the Australian community. The valuable feedback we are receiving gives me every confidence that bom.gov.au will remain the most visited Australian government website and, alongside the BoM weather app and its over 14 million users, Australia's most trusted source of weather, water, climate, ocean and space weather information. All of these deliverables have been successfully and seamlessly brought into operation during times of significant demand on our core business-as-usual operations resulting from the impacts of COVID and sustained extreme weather conditions over large parts of the country.

For many years, this committee, as it should be, has been interested in the financial aspects of ROBUST. As a result of a cabinet decision taken in 2017, the bureau has been unable to share publicly the financial details of ROBUST. Now that the program has closed and following advice from the departments of Prime Minister and Cabinet, Finance and the Treasury, I am now able to provide the committee with the information you've been seeking on the costs of the program. When ROBUST was approved in 2017, it was expected to cost \$788 million. When the program closed on 30 June 2024, the overall cost was \$866 million, or roughly 10 per cent over budget. This cost variance, while disappointing, is within reasonable tolerances given the complexity of ROBUST as well as the unanticipated impacts of COVID on supplier costs, supply chains and the movement of people. As in all major programs of this scale, there remain a small number of items that require closing out, and these will be done as part of BAU activity in the bureau over the next 12 months. By agreement with the Department of Finance for this transition work, the bureau will draw upon funding allocated in the 2021 budget to sustain the benefits of the ROBUST program. No new funding will be requested for this transition work.

During its life, ROBUST has been subject to a comprehensive assurance and review program. At the most recent Gateway review, conducted in September 2024, the panel concluded that ROBUST has been successful, that its governance has been very effective, that its performance was considerably better than other comparable programs across government and that ROBUST was 'a good news story'. I'm immensely proud of the achievements of all bureau staff who have worked tirelessly to deliver ROBUST. It has been extremely complex and challenging, and they have displayed resilience, adaptability and professionalism throughout. I would like here in these hearings to publicly acknowledge and thank them for their contributions.

Finally, Chair, I recognise that in our previous meeting the committee had some detailed questions that we couldn't fully address at the time, and I apologise for the frustration that it caused committee members. I have great respect for this committee's work and am committed to providing the thorough responses that you need. To this end, I have a number of my senior colleagues here with me today who can hopefully provide detailed insights not only into the ROBUST program but into other aspects of the bureau's work that might be of interest to this committee.

CHAIR: Thank you, Dr Johnson. I appreciate those comments. We'll start with Senator Duniam.

Senator DUNIAM: Dr Johnson, welcome. You've apologised to the committee for your lack of willingness to be forthcoming with information last time, or ill-preparedness. I'm not sure which it was.

Dr Johnson: The committee had a number of very detailed questions.

Senator DUNIAM: As we always do in every committee, at every estimates, every year.

Dr Johnson: As I said, I apologise.

Senator DUNIAM: I noted the apology. I'm just reflecting on that. You don't need to remake it. You do realise in your performance not just at the last estimates but ones previously you managed to unite every single member of this committee in fury at your unwillingness to answer questions. It's not just items like ROBUST or, as you put it, detailed questions. You do realise the impact your performance had, which is why you are having a separate hearing away from the rest of the department today.

Dr Johnson: I don't think it was a lack of willingness; I just didn't have the information with me to answer the questions that you had.

Senator DUNIAM: Which is why I wondered whether it was ill preparedness.

Dr Johnson: No. I think this is the 25th time I've appeared before this committee. I'm conscious of meeting your needs—that's my No. 1 priority—and I'm also conscious of making sure we don't have an unnecessary use of resources given our offices are located right around the country. At the last hearing there were—for the first time since I've been chief executive—a number of incredibly detailed questions. As I said in my opening statement, I apologise for that. I know you were frustrated. I was frustrated, but it certainly wasn't a willingness issue. It was just I didn't have the ability to answer those questions at the time. Hopefully, we can answer your questions today.

Senator DUNIAM: Why don't we go to them? As I say, it takes a lot for me to lose my temper, and last time I did. I don't want to have to do it again and I don't think this committee wants to find itself in the same situation. I do want to go to the case of *Chambers v Commonwealth of Australia*, where the appeal has been dropped. Having read the decision of the court handed down on 9 February, which was subject to appeal and therefore before the courts last time we met and there wasn't much information that could be provided, I want to go some of the details of that. In general terms, reading this decision by the Federal Court judge, it does reflect on your management style, Dr Johnson, in terms of it being a very direct and detailed management style. They're the words of the judge. Do you have any reflections on the findings of the Federal Court judge?

Dr Johnson: I certainly do. I can say a few things in regard to the judgement. Obviously, the bureau and the Commonwealth more broadly strongly disputed many of the comments that were made in the judgement not just about me but a range of other current and former bureau staff members. I'm not sure whether you've had a chance to read our appeal documentation, which is also on the public record. In summary and in the interests of time, the strong disagreement we have on the judge's comments are really around four areas. Firstly, a number of the comments had no evidentiary basis. The judge, in our view, demonstrated ostensible bias, a lack of procedural fairness and a range of other errors in his judgement. I'd make that comment, broadly speaking, about the vast majority of what was in that statement.

Senator DUNIAM: Why then did the Commonwealth not proceed with the appeal if it's as flawed as you outlined?

Dr Johnson: If there are technical aspects, legal aspects, around the case, I might ask Ms Heward, our general counsel, who's here with us today to assist you with your questions.

Senator DUNIAM: My question to Dr Johnson, for which you've been brought to the table, was: if there was such a belief that the judgement handed down on 9 February this year was so flawed, why did we not proceed with the appeal and follow through?

Ms Heward: We did consider there were very strong grounds for the appeal; however, we were also very conscious that, if the appeal had been successful, the outcome would have been that the matter would have been remitted for a full rehearing. That would have imposed a significant burden on both parties. Throughout the conduct of the matter, the bureau has been quite conscious of its obligations as a model litigant. One of those obligations is to settle claims where possible and appropriate.

Senator DUNIAM: Are the terms of the settlement publicly available?

Ms Heward: No, the terms of the settlement are confidential between the parties.

Senator DUNIAM: You are saying that it was signed as a confidential settlement?

Ms Heward: The document was signed at the settlement deed and it is confidential between the parties.

Senator DUNIAM: Could you please take on notice whether you're able to table that deed?

Ms Heward: I can take that on notice.

Senator DUNIAM: With regard to some of the findings, I presume, Dr Johnson or general counsel, you dispute everything in this judgement?

Dr Johnson: Certainly there are aspects in the judgement, as I said before on my answer, where the judge has made comments about current and former bureau staff with which we strongly disagree.

Senator DUNIAM: There was a statement at paragraph 91 relating to Dr Stone:

Dr Stone's evidence is dealt with further on in this judgment. The Court found his evidence unsatisfactory and not credible or reliable. He sought to explain away issues with his evidence. His explanations were unconvincing. The lack of credibility of Dr Stone's evidence however not only impacts upon his evidence. It impacts on the entire narrative being put forward by the Bureau. It invites negative findings as to the whole of the narrative, despite the evidence of other witnesses.

You dispute this. You don't want to appeal it. It stands because no-one has appealed it. We've just settled in a confidential setting. As representatives of the taxpayers, we are left with this as the finding against Dr Stone by a Federal Court judge. Is there any reflection from the bureau on this at all?

Ms Heward: The judgement stands on the record as do our appeal submissions. I would note that the appeal was dropped because the matter was withdrawn. There was no longer any need for the bureau to continue to appeal the matter.

Senator DUNIAM: It was withdrawn by the applicant? In the bureau's view, the judgement is wrong and there is nothing to do. There are no internal processes to be put in place—no change in culture, nothing like that.

Dr Johnson: As I said in my previous answer, the bureau strongly disagrees with the comments the judge made about current and former bureau staff. In relation to some of those comments, I've also taken advice from the Australian Government Solicitor and we've also consulted with the Australian Public Service Commission. As a consequence, we'll be taking no further action.

Senator DUNIAM: Are there any other matters on foot relating to employment before the courts in dispute in any way?

Ms Heward: I don't believe there are any matters on foot before the courts.

Senator DUNIAM: Are there any matters in dispute between former employees or even current employees in the bureau?

Ms Heward: There are always ongoing staff related matters.

Senator DUNIAM: Perhaps take it on notice? If you can characterise it in a way without identifying staff, that might be the best way to go.

Senator McAllister: Just to assist the official, I do think there are some limitations on what would ordinarily be disclosed around legal proceedings that are underway. Indeed, you've already alluded to some of the privacy issues that might be relevant too. Thank you for your forbearance in allowing officials to take some of these things on.

Senator DUNIAM: Yes. I'm not going to be unreasonable about this. You'd be unsurprised, Dr Johnson, to learn that throughout the last 12 months or more there have been a range of people who have written in from within the bureau—and I suspect former staff of the bureau—to offer their views on how things are going at the bureau. What is the general view on whistleblowers in the Bureau of Meteorology?

Dr Johnson: I'm not sure there is a general view. There are whistleblower provisions available to all staff in the APS. Those provisions are there for a good reason: to provide a mechanism by which staff can exercise their views and provide their views in a safe way and an independent way. It's a very important mechanism in the overall integrity framework of the APS.

Senator DUNIAM: Have there ever been any internal investigations as a result of notional leaks or information making their way to journalists, senators, et cetera?

Dr Johnson: Not to my knowledge. When you say 'investigations', are you talking about formal investigations? There have been no investigations that I'm aware of.

Senator DUNIAM: No internal processes or investigations in relation to that?

Dr Johnson: Not to my knowledge. Again, I'm not sure how you're defining an investigation. Obviously I'd be interested to know, if there are leaks, where they're coming from because I'd like to talk to those staff myself and hear their concerns directly. I would like the opportunity to discuss it with them rather than hearing it through a newspaper.

Senator DUNIAM: If there were leaks coming from within the bureau, how would you try to determine where they were coming from?

Dr Johnson: Obviously the bureau has, like the rest of the APS, policies with regard to the use of emails and the transmission of electronic information. We expect all staff at all times to adhere to those policies. Obviously I think it's reasonable to expect that management would wish to check whether those policies have been adhered to. I'm not sure that constitutes an investigation, though.

Senator DUNIAM: How often are there checks, as you say, on the use of electronic transmission?

Dr Johnson: I couldn't answer that question.

Senator DUNIAM: Could you take it on notice in the vein of your offer of willing to be transparent?

Dr Johnson: Yes.

Senator DUNIAM: Is that the practice the bureau takes? If it is perceived that there is information leaving the entity which is unauthorised, there will be a monitoring of—

Dr Johnson: No.

Senator DUNIAM: What were you talking about?

Dr Johnson: I'm just saying, from time to time, we may choose to see whether there's been adherence with the Australian government's policy with respect to the use of emails and people's condition of employment. I wouldn't characterise it at all as a practice or a policy.

Senator DUNIAM: What triggers that? Is it just a random thing from time to time?

Dr Johnson: That's a good question. I'll not sure how I characterise it. It's probably situationally dependent—context dependent—depending on the nature of the information that's been disclosed.

Senator DUNIAM: There has to be a disclosure of information for that process to occur?

Dr Johnson: If information has been disclosed, particularly if that information has a security classification, I think parliament would legitimately expect the bureau's management to take action to seek to identify that disclosure.

Senator DUNIAM: You'll take on notice the processes around that, any threshold that is of event that occurs in order to trigger such a process?

Dr Johnson: Yes.

Senator DUNIAM: Please could you detail for me the occasions on which by date these checks have occurred?

Dr Johnson: I'll do my best. They may well be informal. I look forward to seeing the specifics of your question and, as always, we'll do our best.

Senator DUNIAM: I've just provided them. We can provide further information if you'd like, but it is pretty straightforward. Returning to the matters of staffing, are you able to provide the advice that was provided from the Australian Government Solicitor?

Dr Johnson: I believe it's subject to legal privilege. No, I'm not.

Senator DUNIAM: Which is not a reason to not table it. If you want to make a public interest immunity claim, you could take that on notice, which is the standard process.

Senator McAllister: We will take it on notice. We'll see what can be provided. If we need to make such a claim, we will.

Senator DUNIAM: Yes, the normal process. Are there any matters before the Fair Work Commission?

Ms Heward: At the moment, I believe there may be one.

Senator DUNIAM: How long has that been before the Fair Work Commission?

Ms Heward: I wouldn't have the details. I would have to take that on notice to provide details of that matter.

Senator DUNIAM: Are we also able to get a copy of the opening statement?

Dr Johnson: Yes, I believe the committee may already have it.

Senator DUNIAM: Do we? I'll just check. I know it was provided to the secretariat earlier. I'm sure we'll get a copy.

Dr Johnson: Certainly.

CHAIR: Can we just check that we've received it? That would be great, Minister.

Senator DUNIAM: Do you want to rotate the call?

CHAIR: We'll go to Senator Pocock.

Senator BARBARA POCOCK: Thank you for being here. I note your apology, which I appreciate. I thought it was a very surprising series of exchanges at estimates; I've never had an experience in the same way. I note your apology and I also note that you have brought a range of staff with you today, which I think is very helpful. I want to come back to the issues of contracting and ROBUST as you talked about in your opening statement. I just wanted to pick up Senator Duniam's questions around whistleblowers. You expressed a view that you would hope someone with an internal whistleblower complaint would come to you rather than a newspaper. Why does someone go to a newspaper, do you think? Have I heard you correctly?

Dr Johnson: You would have to ask those folks what their motivation is. My own view is that there are many mechanisms by which staff are able to give voice to concerns or feedback they'd like to express: their immediate management, their managers and immediate manager. My door is always open. I receive, and gladly so, many direct lines of inquiry, requests and feedback from staff. There's the department, the minister and also, obviously, the former whistleblower legislation. There are multiple mechanisms by which staff can give voice to their views. For whatever reason, you'd have to ask those staff why they choose to give voice to their views via that channel. I'm not sure why they do it, but that's their choice.

Senator BARBARA POCOCK: I'm sure you're an experienced manager. It's not hard to guess why people don't come to their line manager, let alone to the CEO, with concern. It's usually fear and concern about reprisals.

Dr Johnson: Sometimes it can be, but I think, again, my experience is that's not always the reason. Sometimes there are other agendas at play. You're right; in some situations that can exactly be the case, which is why I think the whistleblower legislation, for example, provides a very ROBUST framework for staff, in a safe way, to express their concerns.

Senator BARBARA POCOCK: As a department, do you publish statistics on whistleblower incidents, statements or any proceedings that arise from staff who want to pursue that line?

Dr Johnson: I don't believe we publish it. I also believe in Ms Heward and in Mr Abrahams, our general manager of organisational developments, who is here as well. To the very best of my recollection, during my time as CEO, we have had no whistleblower cases come forward. I'm happy to stand corrected and take that on notice, but I'm not aware of any.

Senator BARBARA POCOCK: Do you do any comparative analysis of your history? That could be a good or a bad indicator. Zero can be an indicator of a fearful environment where people are not comfortable in coming forward. Do you do any comparative analysis of such incidents and other forms of complaint relative to other agencies?

Dr Johnson: Certainly our statistics around bullying and harassment are published and we're able to compare those and benchmark those against other agencies. In terms of our census results, there are a number of questions that go to staff wellbeing, the culture and the environment of the bureau, which are all, I say, strong. Again, there's an incongruity. Obviously, there are a small number of people in the organisation who are unhappy and are choosing to give effect of that unhappiness through the media. I'd like to put that in context that in my view—and the data supports this—there are a very large number of staff in the bureau who love working for the bureau, thrive in the bureau and deliver great things for our country every day. Our HSE statistics are good. I'm never satisfied; I'd like them to be better. Our bullying and harassment cases are very low—certainly much lower than when I joined the organisation in 2016. Any number greater than zero is a concern for me. Nonetheless, in an organisation of a couple of thousand people, from time to time these matters are going to arise, unfortunately. When I look at the data as well as my own feedback when I walk the floors and talk to our staff, the overwhelming majority of staff at the bureau are happy and our culture is a good culture.

Senator BARBARA POCOCK: I refer to ROBUST and to your sentences in your opening statement. You indicated, as I understand it, that the total cost was \$886 million for ROBUST. You also mentioned the original budget of seven—

Dr Johnson: Seven hundred and—sorry, I've just had a senior's moment. Let me confirm it, because the numbers are important. It is \$788 million; yes, I was correct.

Senator BARBARA POCOCK: I understand there was an initial allocation, back in 2016-17, of around \$300 million for ROBUST. Have I dreamt that figure up—that I'd understood it and I'd seen that figure?

Dr Johnson: I'm not sure if you've dreamt it. Maybe what you're referring to is that when ROBUST was funded cabinet agreed on an overall funding envelope, but the funding was tranced into three tranches for various reasons. I am happy to explore that if you're interested. I need to double-check that \$300 million figure with colleagues who are present here with us today. It possibly represents tranche 1. It does. They're nodding. We are just checking. ROBUST, as I said, was funded in three tranches. That figure of \$866 million that I gave you represents the combined value of all three tranches.

Senator BARBARA POCOCK: Could you provide documentation of those three tranches—

Dr Johnson: Sure.

Senator BARBARA POCOCK: and the scope of activities that was anticipated in all three in terms of the timing of the decision around each of those tranches? Did any element of tranches 2 and 3 relate to expansion or review of the original budget and its activities?

Dr Johnson: I think we should be able to answer that for you today, if you would like. Certainly, there were no changes in scope or budget to ROBUST after the original decision. A macro decision that was made—

Senator BARBARA POCOCK: There has been a change to budget. There's been an \$86 million increase overrun.

Dr Johnson: Correct. As I said before, by agreement with the Department of Finance that overrun has been addressed through being able to draw upon a budget measure that was put in place in the 2021 budget. In terms of the original allocation that we received—that \$788 million to which I referred—there's no variance to that. You're correct; we had an overspend of that \$80-odd million. As I said before, by agreement with DOF we're using another budget measure. We haven't gone back to government to ask for supplementation. We've just utilised that

measure which was appropriated in the 2021 budget to sustain the benefits of ROBUST. The government's advice to us was, rather than come back with a new policy proposal, it was a legitimate use of the sustainment funds to deal with the remainder of ROBUST.

Senator BARBARA POCOCK: I think you said that you believe the full scope of the project has now been finalised?

Dr Johnson: No. Just to be clear, I've said around 90 per cent of the scope has been delivered. We've got a small residual amount of work still to do over the next 12 months. Again, this is hopefully clear in my statement when you get a chance to read it. There are a small number of things. For example, bringing fully live the new website, some additional testing and commissioning of the disaster recovery supercomputer, and some work in relation to our observation networks, particularly our rain gauges. There's a small amount of work that we're finalising over the next 12 months. Again, by agreement with the relevant parties, including the Digital Transformation Agency, the view was that there's no point sustaining the massive architecture put in place for a program of that scale for the small amount of work. We'll absorb that small residual into the business activities of the bureau. Just to assure all parties that we'll do what we said we were going to do; we're going to sustain the very high level of governance over the program that existed through its life, as commented by the last Gateway Review panel. I will continue to be the senior responsible officer responsible for ensuring that last remaining few inches of the journey are completed. We'll have strong and ongoing ROBUST governance arrangements. There will also be another Gateway Review next year to make sure we honoured our commitments.

Senator BARBARA POCOCK: That's a 10 per cent overrun of \$86 million?

Dr Johnson: That's right.

Senator BARBARA POCOCK: I'm sure you'll agree that's not a trivial sum.

Dr Johnson: No, I agree.

Senator BARBARA POCOCK: It's 10 per cent under scope at the moment of completion, as you define it.

Dr Johnson: Yes, broadly speaking.

Senator BARBARA POCOCK: These are two significant—

Dr Johnson: They're certainly not trivial; I agree with you. As I said in my opening statement, I really think the performance of the whole program needs to be put in context. Right in the middle of the most intensive aggressive phase—

Senator BARBARA POCOCK: My time is limited.

Dr Johnson: Yes. I'm also just saying that, whilst it's undesirable, it's well within reasonable tolerances for a program of that size.

Senator BARBARA POCOCK: I want to move now to contract extensions under the ROBUST program. When we look at AusTender, it appears that ROBUST has not in fact been completed as two of the key contractors on the project, Deloitte and Accenture, have had their ROBUST contracts extended, adding an extra \$26 million to the bill and pushing out the completion date to 2027. What are those extension contracts for?

Dr Johnson: I might ask my colleague, Mr Haydon, who's General Manager of Portfolio Management, and the ROBUST Program Director, Ms Brinsmead, to come to the table. I'm sure they'll be able to answer your questions.

Mr Haydon: If you don't mind, I shall give an explanation of AusTender—

Senator BARBARA POCOCK: There are two specific contracts I'm interested in. I want to know what the extensions are for. I can give you the numbers if you want.

Mr Haydon: No, I have those here. When a contract is originally loaded on to AusTender, it represents the original contracted amount. What that doesn't show on AusTender is the full possible extent of the contract, including options not yet taken. The Deloitte and Accenture contracts are still active. We're working through the total contract period. When you see a variation on AusTender, sometimes it will be because the amount of effort in the contract has changed. There's certainly been some instances of that with both of these contracts. However, there are other instances where it's simply playing through the available options in the contract. Some of the other variations have been the natural transition and life of the contract through its initial build stage and then into its service support stage. That is the case for both of those contracts.

Senator BARBARA POCOCK: Was that extra \$26 million entirely anticipated within what you describe as options?

Mr Haydon: No, there's genuinely been more effort on the initial stages of both of those contracts. We describe those as the build phase. That encompasses things like initial discovery, the development of detailed requirements, the design of IT systems and the build—so the development to that architecture and design, the development of software code to run on those systems, the testing and then the release into operations. There's been more effort required at those stages of the contract than we originally anticipated. The mix of the contract over time has shifted more towards the build phase and less towards the service support phase.

Senator BARBARA POCOCK: I'd like to take you to recent reports in the public policy journal *InnovationAus*—and I'll table these, if I may. One of the reports described the ROBUST program with the alarming headline 'Sky-high IT contractor costs at weather bureau'. I'll come to this second report as well in a moment; I've got 10 copies of both of them there. They say:

Accenture, which was brought into the project in 2019 under a \$31 million contract to provide a platform to deliver meteorological information, also had its contract extended in late July.

The ninth and latest amendment is the biggest yet at \$16.6 million, more than double any of the prior eight. It pushes the deal to more than \$75 million and an end date of 2027.

This is eight extensions to a contract, followed by a \$16.6 million extension, and a total of \$75 million. What is going on here? These are very large numbers, I'm sure you will agree, Dr Johnson and Minister. Are you aware of that article, and what is your response?

Ms Brinsmead: Yes. I was also the program director for ROBUST for a period of time. Those particular two contracts, both Accenture and the Deloitte contracts, had two components: the build contracts, which my colleague just referred to, but also those contracts included the run component. Once the ROBUST program was over, those vendors were retained to continue to provide run services for the technology that they'd built. Those recent extensions on those two contracts were for the run services.

Senator BARBARA POCOCK: Why does a contract—I'm referring to C3623750-A9, described as 'Channels Platform—Workstream 2'—that was initially worth \$31 million now cost the taxpayer upward of \$75 million? Can you give us an answer in broad terms about what's really happening there, because it's a massive change?

Ms Brinsmead: Yes. That goes to the point that my colleague made in that the effort associated with the build of the channels platform has been greater than originally anticipated. But it was also always planned for those vendors to run those contracts or run the support services once the build completes. The build components of those contracts were always anticipated; however, they weren't published in the initial AusTender amount when we published the tenders on AusTender, but they were a part of the initial contract.

Senator BARBARA POCOCK: I've got real concerns about AusTender in general for the amount of detail we get for very large spends of public money. I'll set that aside. What you're saying to me is what is on AusTender has a huge amount of elasticity behind what appears on the page, which takes you potentially to a series of options for expansion within the contract. Secondly, you're saying the contractor Deloitte can come to you and say, 'The effort has been way bigger; we need an extra \$5 million or \$10 million.' In this case it was many millions. Just to run the argument, what work do you do to monitor and evaluate that effort so that we can have some confidence that value for money is real and that the effort is real?

Mr Haydon: There are a number of controls in place. Some of them are pre-contract and some of them are in contract. We have the base contracts developed by the Australian Government Solicitor. We run open tender processes to make sure that those initial prices are competitive. Through ROBUST, we had an external probity adviser throughout the tender process and the whole program. We comply with the digital transformation agency mandates related to contract terms, the maximum contract terms and options. Obviously, we choose the tenderer for contract based on overall value for money, which as you know is not necessarily the lowest price. When we're in contract, each of those major contracts has a contract manager to ensure compliance and to manage the life of the relationship. There are regular engagement forums and escalation mechanisms. The bureau has a contract management framework which guides that activity of the contract manager. We report those contracts to the program governance bodies. There are contract change controls. The bureau has a system of delegations to ensure that high-value contract decisions are made by an appropriate delegate.

Senator BARBARA POCOCK: Can I ask for a detailed explanation on notice, giving explicit reasons for each of the nine contract extensions. I've had very paltry two-line answers to my previous QONs on this issue. I'd also like detailed explanations of the way in which effort is judged and compensated. Is it not true that Accenture and Deloitte have not been exposed to competition in relation to all of these extensions, which are very expensive on the public purse? Could you take that on notice?

Mr Haydon: Certainly.

Senator BARBARA POCOCK: Thank you. I want to ask about one of the many ROBUST contracts awarded to Deloitte, this one in August 2021. I'm happy to give you the number. It's called Integration Competency Centre. According to AusTender, the original value of the contract was a little over \$4 million. I understand it's now at \$20 million. Why is that project costing us nearly five times the original estimate?

Ms Brinsmead: Deloitte were contracted to build the bureau's new integration platform. As to the original value of the contract, as you cited, along with the Accenture contract, the complexity of that platform was greater than anticipated as we went through the discovery and the design phase. There were also options on that contract. As we went through the build of that process, more effort was required.

Senator BARBARA POCOCK: Did Deloitte come to you and say, 'Sorry, we underestimated; we need more money,' or did the bureau suddenly decide that you needed a much different or bigger project than originally anticipated? Who's doing what?

Ms Brinsmead: Most of that was driven by the bureau as we went through the design phase. The build of the integration platform was heavily integrated with our data platform and our channels platform. As we understood the solutions associated with those, we understood the technical dependencies and in some cases that meant there was more effort required. We had to go to Deloitte and say, 'We now need this aspect, so we need this problem solved. Could you do that for us as part of the build contract?'

Senator BARBARA POCOCK: What's the consequence within the department within the bureau of such a massive shift in the pricing and oversight of what was at first specified and budgeted and now is five times greater at \$20 million?

Dr Johnson: In a program of this scale and complexity, there are going to be some aspects where there's more expenditure than anticipated and there are going to be some aspects where there's less expenditure than anticipated. I'd draw your attention to our answer to your question on notice from the last hearing at SQ24-000493, where we've listed the projects where we've been able to deliver scope for less than the original budget as well as the work streams in ROBUST where the costs were more than the budget that we expected. There are going to be ups and downs. At the end of the day, when it all comes together across all of those 150 scope items and so on, which is an enormous amount of activity, there's that data that I referred to in my opening statement, that sort of 10 per cent data. If you'd like, we're happy to go through each one of those. There will be somewhere we've been able to deliver the scope—we've undertaken the work for less cost than was anticipated—and there will be some where it's going to cost us more. Again, having done a few of these things now, that's the challenge you face when you're trying to deliver a program of this scale and complexity. Until you're right into it, it's very difficult to pin it right down.

Senator BARBARA POCOCK: But it's fair to say, isn't it, Dr Johnson, there is a range of costs to do with ROBUST that are not included in the \$866 million figure?

Dr Johnson: I perhaps wouldn't characterise it that way. There's what I would regard as two categories of cost. There's the cost that's required to finish that remaining scope that I referred to, that tail, that transition work, and then there's a cost to the bureau ongoing and out into the future associated or as a consequence of having implemented ROBUST. I think that's what my colleagues are saying. In some cases, the contractors that we have used to help us build ROBUST are continuing their association with the bureau but in a different manner—in other words as service providers—to run some of the technology that's being developed as part of the ROBUST program. I'll just check with them if that's a fair characterisation, but that's how I would see it.

Senator BARBARA POCOCK: Dr Johnson, we're here for transparency. Taxpayers have a right to know how their money is being spent so they can judge whether it's being spent wisely. I find much of this very opaque. Following our last estimates meeting, I was provided 3,000 pages of heavily redacted documents which were delivered to my office under order of the Senate that had virtually all detailed financial information blacked out. That is not what we mean by transparency. We need to know the actual sums of the actual full project and the total amount that's been delivered or not yet delivered. I'm still looking for the transparency that we need in relation to this huge project.

Dr Johnson: It's a really important question. I think we both share high aspirations for the integrity of the expenditure of public funds. I can't give you that assurance any stronger. We have been as transparent as we can with respect to the OPD document. I acknowledge there's a lot of paperwork there. I also would like to pay tribute to our team.

Senator BARBARA POCOCK: And mine.

Dr Johnson: And yours. A lot of people have spent a lot of time on these important documents. We have sought to provide you with all the information that we can, subject to national security and commercial confidentiality reasons. We've received advice from the Australian Government Solicitor and other parties to make sure we're discharging our obligations appropriately. We've tried our very best to give you the maximum amount of information that we can in those documents. We're happy to continue to work with you to address the concerns, if you still have any outstanding, to the extent that we can, because we both share the same philosophical view on these matters.

Senator BARBARA POCOCK: It's more than philosophy. This is millions of dollars and very large contracts. There are still questions there for me, but thank you, Chair. Thank you for your answers today.

CHAIR: Senator Rennick.

Senator RENNICK: On 17 February this year, the *Saturday Paper* reported that two of the most senior executives at the bureau have been castigated for giving evidence to a Federal Court judge that was false. Is that report true?

Dr Johnson: I did give some answers to a similar question from Senator Duniam earlier. To repeat, if I may, on at least four grounds the bureau strongly disagrees with many of the comments made in the judgment that you refer to about a number of current and former bureau staff. A number of the judge's comments had no evidentiary basis. It's our view, and the Commonwealth's view, that the judge in his comments demonstrated ostensible bias, lack of procedural fairness and a number of other errors. We don't agree with those comments and we sought to seek remedy through the appeal process.

Senator RENNICK: You're currently appealing the decision?

Dr Johnson: We had an appeal and the appeal was continued. Both parties, by agreement, reached a settlement. The applicant withdrew their application.

Senator RENNICK: I guess that's concerning because I've always had issues regarding the homogenisation of the weather records. I note recently you've just come out with a latest *State of the Climate* report where you've said the temperature has risen by 1.5 degrees since 1910. Which dataset was that using?

Dr Johnson: That was using the homogenised dataset, and you're well aware of that.

Senator RENNICK: But which one? I'm aware of two, and I found out last time you're now doing decimal point datasets.

Dr Johnson: I know Dr Stone has been a longstanding interlocutor on this matter. I'll ask him to take those questions.

Dr Stone: That's the ACORN-SAT dataset?

Senator RENNICK: Yes. You have multiple datasets. You have got version 1, version 2 and then 2.1, 2.2, 2.3, 2.4?

Dr Stone: It's 2.5. That was released in August 2024.

Senator RENNICK: What was the time difference between 2.4 and 2.5?

Dr Stone: One year.

Senator RENNICK: You now do a new dataset every year; is that correct?

Dr Stone: It's the same underlying data. Homogenisation is an analytical technique.

Senator RENNICK: I know what homogenisation does. My question is: why do you need to do it every year?

Dr Stone: New data is added each year.

Senator RENNICK: Isn't that just your raw observation data? When you say 'new data', is it observation data or is it data that's been homogenised over the raw data?

Dr Stone: You've got your raw dataset—

Senator RENNICK: You mean last year's data?

Dr Stone: Yes. It would only be homogenised if there was a discontinuity in last year's data. The last year's data would only be homogenised if there were a discontinuity detected in the last year's data. It's a continuous dataset going back to 1910. Each time there's an addition made it actually creates data that can be used to assess prior years data.

Senator RENNICK: That's right, but in that upgrade—

Dr Stone: It's continually updated.

Senator RENNICK: From observations, or you then get the observations and then update the observations to your—

Dr Stone: Both. In a calendar year, it has a year of the most recent observations added to it. Then there's a homogenisation—an analysis—done to look for discontinuities in data. If there are discontinuities of a sufficient scale that are identified, then data for those particular sites at which there's a discontinuity will be homogenised.

Senator RENNICK: I've been given information from a person who used to work at the bureau that actually referred to you, Mr Strong, whereby you were referring to myself and you're openly scathing about the 'predictable questions from Senator Rennick', and boast about knowing 'how to manage him'. What do you have to say to those comments?

Dr Stone: As I said in my opening statement, all officers appearing before these hearings have a deep respect for the work of the committee and the role that members of the committee play. I can't respond to an unnamed set of allegations. I'm not sure what they—

Senator RENNICK: I find that interesting, because I've known Senator Duniam for a number of years and I've never seen him lose his cool like I saw him lose his cool with the bureau in the last questioning as well as today. I'll just note that this information also is that Mr Johnson has a dim view of the Senate hearings and has openly questioned why anyone with a life would watch Senate estimates. He sees these as an opportunity for senators to big-note themselves and hopefully get a soundbite on radio or TV. If there's any semblance of truth in that, given the enormous amount of money being spent on climate change and that climate change and that money is being driven by the records you homogenise, I think it's very important that you take this very seriously. I should note that, as someone who has studied statistics in maths 1 in my commerce degree and in my masters of applied finance, I've always been of the view—that's what I was taught—that you report data with a margin of error. The concept that you create an entirely new dataset, which is what you're doing over and above the original raw data and then don't make that clear when you report it, I would say is very poor quality assurance.

Dr Johnson: Maybe I'll leave it to Dr Stone to respond to the secondary comments. I can't walk past those first comments about allegations about my attitude to this parliament, this committee and its work. I don't think I'd be any clearer about the respect that I have. This is the 25th time I've appeared before this committee. I've appeared before estimates committees for many years before I joined the bureau. I have the deepest respect for the work of these committees. I acknowledge that sometimes our interactions are not pleasant for me. My staff would also tell you that I share with them that, whilst it may be unpleasant some days, it's an absolutely fundamental part of our democracy. Having lived and worked overseas for many years, I don't think any of us has countenanced the alternative. I reject those comments and I'm disappointed that someone has chosen to make them. I just can't be any clearer, Chair, through you on the record, about my respect for the work of this committee and its members.

Senator RENNICK: When I was a Senate candidate I originally criticised the bureau for not doing parallel runs when you change your equipment. You've changed from large Stevenson screens to small Stevenson screens. You've changed from mercury thermometers to platinum thermometers. I was castigated for saying this; that I didn't know what I was talking about. This isn't science, this is record keeping. There's a very big distinction in how you keep records, and that's something. In the profession I came from, if we went and created an entire new dataset, we'd end up in jail for that. One cannot ignore the whole concept of homogenisation. I'd refer to the lack of parallel runs you did when you changed the Stevenson screen as being very poor quality assurance. I hope we get better bang for buck out of this \$866 billion on the ROBUST project that you've just implemented, because this is very important.

Dr Johnson: I think we share in common how important is the integrity of the National Climate Record. There's a lot in your statements there—

Senator RENNICK: I'll ask you a specific question: are you going to start doing parallel runs when you change Stevenson screens, when you change equipment, because that's quality assurance 101?

Dr Johnson: I'll answer that question in two ways. As we've described previously, using six nearest neighbours rather than a simple paired comparison actually gives you a much more powerful means of understanding the effect of a change in observation practice. That's why we use six nearest neighbours. The name given to using those six nearest neighbours to correct the discontinuity is homogenisation. That's one thing we are doing—

Senator RENNICK: We need to qualify that. Some of these neighbours are 1,000 kilometres apart. We've had this discussion before about Marble Bar and Port Hedland. With some of these neighbours, you're taking coastal sites and comparing them to inland sites. How do you think you can do an actual homogenisation when you're comparing two different geographical locations with different weather patterns? My home town is a couple

of hundred kilometres from Brisbane. The weather pattern there is completely different from what it is in Brisbane, which has humid heat. Two hundred kilometres away, it's a dry heat.

Dr Johnson: Understood. You use neighbours that are similar—

Senator RENNICK: I know the process. You don't need to explain it to me. But I still struggle as to why you wouldn't run multiple thermometers, for example, at the same location, just for redundancy. That was the recommendation in the independent peer review in 2011.

Dr Stone: When we make changes to stations such as those we are going to be making in the next few years all of those will be accompanied by at least two years of parallel runs.

Senator RENNICK: That's good to hear.

CHAIR: We'll go to Senator Duniam.

Senator DUNIAM: I think we will obviously take what's being said here about an approach to transparency moving forward. The proof of the pudding is in the eating. We'll see what comes back on notice to a number of these questions. Returning to the court case we were discussing before, is there a total cost that's been accrued to the bureau relating to this action?

Dr Johnson: The costs for the court case were paid by our insurer, Comcover. If you've got any questions around the cost, you'd need to direct it to them.

Senator DUNIAM: Whose decision was it to pursue the appeal?

Dr Johnson: Again, I might ask Ms Heward to join us if we start to get into technical matters. I believe ultimately it's Comcover's decision as the insurer. Obviously they took advice from the bureau, from the Australian Government Solicitor—the Attorney-General's Department is probably a better way to categorise it—and also our legal representatives. Ms Heward, is that an accurate characterisation?

Ms Heward: Yes. Comcover has the conduct of the matter. It was reported to them under our statement of cover. They have the decision rights over the important aspects of the case.

Senator DUNIAM: Including whether or not to appeal?

Ms Heward: Yes.

Senator DUNIAM: The bureau has no role in deciding?

Ms Heward: We were involved, obviously, in the matter. We had to provide information and we were part of those decision-making processes, but Comcover has the decision rights.

Senator DUNIAM: Does the role of the bureau in that process you just outlined include providing a recommendation about whether or not an appeal be pursued?

Ms Heward: No, there wouldn't have been a recommendation provided.

Senator DUNIAM: The facts of the matter are presented to Comcover and they make a determination with no urging, recommendation or advice from the bureau?

Ms Heward: There were discussions between counsel.

Senator DUNIAM: You?

Ms Heward: No, our senior external counsel—the barristers who were briefed in the matter, who were briefed by McInnes Wilson Lawyers, who were the Comcover appointed lawyers. There were discussions between all parties.

Senator DUNIAM: I'm trying to ascertain whether the bureau provided instruction to any party, be it a Comcover related entity, counsel or your own legal representatives to pursue the appeal.

Senator McAllister: I think ordinarily those communications would be something we wouldn't wish to examine in terms of whether or not we consider them privileged before releasing the information to the Senate. I'm not sure. You can provide advice.

Dr Johnson: I think we can. To the best of my knowledge, the instructions are given by Comcover. They're the instructing entity. As my colleague said, they obviously sought input from a range of parties whom we've all named. Ultimately, the entity that's issuing instructions to the legal representatives is Comcover—not the bureau.

Senator DUNIAM: I might have some further questions on notice around that. It seems a bit unfair to the bureau to be dragged along for a ride of this nature if you don't have any control over whether or not a matter goes to appeal. We'll explore that later on, noting the minister's caution there as well. Ms Heward, I think you said there was one Fair Work matter on foot; is that correct?

Ms Heward: Yes, but I was taking the details of that on notice, because I don't have details of that with me.

Senator DUNIAM: We have one case and you don't have any understanding of the nature of that case at all?

Ms Heward: Not that I wouldn't be prepared, because I am not certain enough of the details to provide them here.

Senator DUNIAM: No, that's fine. You've taken that on notice. Can we go to more broad matters around personnel? Dr Johnson, at the February estimates you said that you didn't believe you'd taken a decision to terminate anyone at the BoM. You said it was something you had to check and 'nothing comes to mind'. As far as I could calculate, there have been 35 cases of terminations of employment among the executive and other high-paid staff alone. That's from the 2016-17 financial year as far as I could add up. You've not been a part of the decision-making process in relation to those?

Dr Johnson: These are in relation to SES staff? Is that to whom you're referring?

Senator DUNIAM: Yes, SES and other high-paid staff.

Dr Johnson: I'm not sure how to respond to the high pay, but I can certainly comment on the SES staff. I have some numbers on that. In broad terms, there have been a number of SES staff leave over the period. They constitute retirements, folks getting another job or basically retirement. I don't believe there have been any redundancies in any of those SES roles actually. I apologise. I'd like to correct myself here. There are 37 that have left since 2016: 16 were due to retirement; six got roles in other APS agencies; three who were given a redundancy; 10 who resigned; and two who came to the end of a non-ongoing contract. That's the breakdown. The redundancies are as a result of—I don't have the dates on when they occurred but there's nothing in recent memory. It may well have been almost seven years—

Senator DUNIAM: Perhaps on notice you could just give me the reasons around that. My question was more around your involvement. I presume these individuals we're talking about have separated from the organisation and were not your direct reports but perhaps one, two or three pegs below you. Therefore, you may not have been—

Dr Johnson: They may or may not have been. It depends on the case. For example, obviously SES band 2 officers report to me. A couple of those for example are retirements—regrettably due to ill health—but none of those are redundancies. But they may well have been SES band 1 officers who don't report to me and that would have been signed off by the band 2 officer.

Senator DUNIAM: I'll ask for some further information on notice. Around this issue of clarification in terms of former chief scientist Susan Barrell, it's noted in the financial year 2018-19 documentation that she retired.

Dr Johnson: Correct.

Senator DUNIAM: It specifies her departure from the organisation but it doesn't do that for others who may have departed in the same fashion or for another reason. Why is that?

Dr Johnson: I honestly have no idea. Is it in the annual report?

Senator DUNIAM: Yes, page 129 of the 2018-19 annual report.

Dr Johnson: I don't have that with me, but I can certainly take it on notice. I don't want to speculate. I'm not sure why that would be.

Senator DUNIAM: No, don't speculate. Take it on notice. Then we'll have a full answer around why that one might appear as it does here, as in 'retired' under her name with the remuneration elements as outlined there. For the others in a category departing from the organisation, they're not listed in any similar way. I return to the issue of whistleblowing. I refer to something that's been effective with other organisations to try to manage some issues. The Antarctic Division was able to allow its staff to attend in-camera hearings of the references version of this committee. Is that something the bureau would be comfortable with if it were something that your staff felt more comfortable doing?

Dr Johnson: As per my earlier comment, I strongly encourage all of our staff to give voice to how they feel about their workplace and its performance. For whatever reason, if staff feel that all of those mechanisms that I alluded to before in my earlier answer still don't meet their needs, I'm open to any mechanism that provides staff with a forum to express their views. I should have also added actually in my earlier comment we have a staff consultative forum and multiple layers in which staff can give voice. Believe me, most of them do. I welcome it. We're better for it. We improve as an organisation because of it. To your point and others, there will always be from time to time folks who don't feel they can. I understand that, too.

Senator DUNIAM: Yes. In any organisation, anywhere, anytime.

Dr Johnson: Absolutely.

Senator DUNIAM: I refer back to redundancies. As I understand it, there were four involuntary redundancies and terminations in 2016-17. Were you there then?

Dr Johnson: I commenced in September 2016, so it may have been before I joined. It may have been during that financial year.

Senator DUNIAM: On notice, could I understand in broad terms, obviously, to what they related? That would be helpful. Closing out on the court case, last time we caught up, Ms O'Connell, we were talking about the advice that was provided to the minister relating to the 9 February ruling of the judge. There was urgent advice sought. Was that advice provided to the minister?

Ms O'Connell: Yes. The secretary sought and considered advice and then provided information to the minister.

Senator DUNIAM: Last time we met, we were talking about the minister seeking advice.

Ms O'Connell: That's right. The minister sought advice initially from the secretary. The secretary then sought advice.

Senator DUNIAM: On what date did you say that was received by the minister?

Ms O'Connell: I'll read out perhaps a sequence of events because the secretary sought advice when the matter went to appeal. On the basis of receiving that advice, he determined he could not take action at the time the appeal was afoot. It was held for decision when the court had finally determined the application for leave to appeal the decision. The matter then settled and then the secretary provided information to the chief of staff of the minister to say that the matter had settled. The secretary then sought additional advice to assist him to form a view about whether he would take any action.

Senator DUNIAM: Any action?

Ms O'Connell: In relation to the statements made in the court decision. The secretary also wrote to the Public Service Commissioner on the matter. The secretary then considered that advice and the consultation. He decided not to pursue an investigation into the conduct of the director arising out of the Chambers decision. He then advised the Public Service Commissioner and the minister of that decision. He did that advice on 27 September.

Senator DUNIAM: There was no advice between the request received from the minister on 13 February and 27 September?

Ms O'Connell: Sorry. There was advice. That was advice around the fact that the matter had gone to appeal. The advice that the secretary had sought and considered in relation to the matter being under appeal was that he was not going to make a decision whilst the matter was under appeal. Obviously, that changed when the matter was settled.

Senator DUNIAM: On notice, could you provide that sequence of events with dates?

Ms O'Connell: Yes.

Senator DUNIAM: That would be good. On notice, could I understand why Mr Graham Hawke left the bureau in 2020-21, why Mr Alistair Legg left the bureau in 2021-22 and why Ms Vicki Woodburn received termination benefits in 2022-23?

Dr Johnson: Ms Vicki Woodburn? You may want to check that. She's actually present here today and is an ongoing member of our executive team. Apologies to Vicki. Sorry if we've sacked you! You are still of value as an officer.

Senator DUNIAM: That's why I asked, because Ms Woodburn appeared in the list of witnesses. I was advised also that there was a termination benefit for Ms Woodburn listed in the annual report.

Dr Johnson: Is she going to be at the pub tonight?

Senator DUNIAM: Drinks are on her tonight.

Dr Johnson: No, she remains gladly valued and a member of our organisation.

Senator DUNIAM: I'll find the documentation here.

Dr Johnson: I can answer two of those immediately.

Senator DUNIAM: The termination benefits are here. Vicki Woodburn in the financial year 2022-23—\$32,068.

Dr Johnson: That's clearly an error.

CHAIR: Are you reading directly out of the annual report? Is that what you said?

Senator DUNIAM: Annual report 2022-23, page 188.

Dr Johnson: There's clearly an error there, because she's well and truly alive and kicking.

Senator DUNIAM: You didn't receive that?

Dr Johnson: No.

Senator DUNIAM: For the purposes of the *Hansard*, Ms Woodburn did not receive that. I'm sorry to discuss this publicly and a payment you didn't receive, but I would be interested to know how our annual report attributes to an individual who is a senior manager within the bureau a termination benefit when she's not gone and is actually here in the room today.

Dr Johnson: Thank you for alerting us.

CHAIR: Maybe on notice we can get you to check that table and come back to us with any points of clarification. That would be very helpful.

Dr Johnson: I'm very happy to do that.

Senator DUNIAM: That would be helpful. Thank you. Ms Woodburn, at least for this weekend you can keep your job!

CHAIR: Randomly perusing your website, as I frequently do, I came across the Australian Space Weather Forecasting Centre. I'm keen to understand a little bit more about this. What is space weather?

Dr Johnson: The Australian Space Weather Forecasting Centre is actually based in your home state, so you're always welcome, as indeed are all members of parliament, to visit. It's at lot 14 in the old hospital redevelopment area in Adelaide. It is a wonderful location with great staff. In terms of space weather, I will defer to my colleague Dr Stone, who looks after this, in a minute—just give him time to warm up. That is probably not a good pun either when we're talking about activity of the sun. Basically, the sun generates weather that has huge implications on Earth—visible and not visible in all sorts of ways. It is probably most visible through auroras, but also through other radiation—gamma radiation, X-ray radiation and other forms of radiation—that impact on not only living creatures, including us, but also critical infrastructure such as electricity grids and HF radio communications. We have a team in Adelaide that monitors the sun.

CHAIR: This is not well known, right?

Dr Johnson: Probably not. We've had a space weather capability for a little while. It was in Sydney, but we moved that capability and enhanced it with the creation of the National Space Agency in Adelaide. We've got the majority of our space weather capability based in Adelaide. Minister Plibersek—Dr Stone can correct me here—opened the centre a couple of years ago now, probably not long after the election.

Dr Stone: October 2022.

Dr Johnson: There you go—October 2022. Our wonderful team in Adelaide monitor not only the sun but also provide support to space industry. You'll probably also be aware in your home, as well as in the Northern Territory, vehicles have been launched into Earth orbit. Our colleagues provide support for those emerging industries that want to conduct their activities in space. It is a fascinating area. It's been something I've had to learn about as well, and it's especially fascinating at the moment because we're approaching a solar maximum. The sun's activity isn't constant—

CHAIR: Can I just stop you there, Dr Johnson, for a minute? I think you're starting from a point that the majority of people don't grasp. When I found this—and I was looking through it—it took me a few minutes to go, 'Hang on, what does this mean?' You have your opening page there where it's about radio blackout ratings and geomagnetic storms, et cetera. Can you step it out for us just in very simple layman's terms for people a bit like me who might be going, 'What is space weather?'

Dr Johnson: I'll have another crack at it. Maybe I'll hand over to an expert rather than just an arm-waver like myself. Dr Stone can hopefully provide a clear articulation.

Dr Stone: It is a fascinating subject. The sun is a great big ball out there burning, and it sends out light and heat that we all can feel and experience. In addition, it sends out electromagnetic particles. That's really what we're looking for with the space weather. The amount of electromagnetic particles that the sun spits out actually changes on a cycle where the distance between the peaks is about 11 years. You go through a period where there's not all that much, and then 5.5 years later you have a period where there's quite a lot. We are in a period where there's quite a lot. When it becomes apparent to anyone who lives in a southern latitude, it is an aurora. The

Aurora Australis is that electromagnetic radiation hitting the atmosphere, exciting atoms and making all those colours that we see. That's the sort of fascinating and visual bit that people are really aware of.

The bit that people aren't aware of, when there's lots of this electromagnetic radiation coming in, is that a lot of the things we use in modern and not so modern technology use radiation. For example, if you hit powerlines that have electricity going through them with a whole lot of that electromagnetic radiation it actually can cause a surge in the transmission wires. That's part of why we issue space weather forecasts. For example, if we forecast a peak in electromagnetic radiation, we actually issue a warning. They're issued on different scales. If it's higher up the scale, we would expect that, for example, power transmission companies would actually reduce the amount of electricity they push through wires so that, when the electromagnetic hits it, it doesn't trick things. That's one. Another is satellites. We're highly dependent on satellites for global positioning, telecommunications et cetera. Amazingly, if they're sitting out there with their panels and sensors facing the sun, basically the amount of radiation they can get during a peak can damage them. Again, if you issue a forecast, it's possible for the satellite operators to actually reorient them so that they don't get hit by as much of the radiation.

There are other examples, but that's what the space weather forecasting is about. It's a 24/7 operation like our standard weather forecasting. It has a team of roughly 20 people who do that largely out of one of our Adelaide locations. To support that, we actually have monitoring equipment around Australia. It's a global effort.

CHAIR: Is this something that you do in combination with other agencies?

Dr Stone: Absolutely. Because the Earth is spinning, everyone has the chance of getting hit by it. We share information, we share science. I'm sorry; I might miss some of them, but we have a close relationship with the US, France and Japan in terms of this gathering of information. Actually, we are not simply waiting for the radiation to hit us and go, 'My goodness! That looks a bit high.' We actually monitor activity on the sun so that we can forecast to say, 'The sun is doing this.' That's the kind of thing that leads to a burst of radiation and that allows us to provide the forecast with the maximum lead time possible.

Senator McAllister: Although the relevant officials aren't here, this is a really important function at the bureau that supports the NEMA, which Senator Davey is particularly interested in, because NEMA has responsibility for coordinating responses should there be an elevated space weather incident.

CHAIR: When you say an 'elevated space weather incident', what does that mean?

Dr Stone: It's a pulse or a burst of a high amount of electromagnetic radiation in addition to the heat and light coming from the sun.

CHAIR: What is the impact? You talked about impact potentially on powerlines; is that it?

Dr Stone: No. It is powerlines, global positioning systems, telecommunications.

Dr Johnson: A classic one is high-frequency radio communication. In a country like Australia, particularly in remote and rural areas, people are dependent on HF radio. In terms of aviation, for example, there was some press—you may have seen—of a Qantas flight enroute from Australia to New Zealand that temporarily lost communication across the Tasman during one of these events. Obviously it is critical for our defence forces. We provide a forecast, just like we do today, for Canberra—actually I'm embarrassed because I haven't checked the forecast for Canberra today—and an analogue of our weather forecast but for space to all of those industries. As the minister correctly pointed out—she beat me to the gun—we're constantly making sure that the National Emergency Agency's operations room here in Canberra is kept aware. Indeed, credit to NEMA; this year just gone we've run our first national space weather exercise—to exercise our muscles—called Aurora.

CHAIR: How did it go?

Dr Johnson: I won't speak on behalf of NEMA, but the minister may want to comment. The feedback from my team who are participants in that process was it went very well. It was very well run. Two weeks or so after the exercise we actually experienced a major space weather event. Those muscles were exercised in a very timely fashion.

CHAIR: It's fascinating. I highly recommend people look at the Australian Space Weather Forecasting Centre.

Dr Johnson: I extend an invitation to all members of this committee and indeed all members of parliament. You are welcome at all of our sites, but for you particularly, being South Australian based, you're most welcome to come and visit us if you would like.

CHAIR: Thank you very much. I appreciate it. We might take the opportunity for a break.

Proceedings suspended from 15:26 to 15:41

CHAIR: Welcome back. We will go directly to Senator Duniam.

Senator DUNIAM: I think Senator Davey had a couple of questions.

CHAIR: Senator Davey, take it away.

Senator DAVEY: I have a few themes, but, flowing on from the emergency management theme after talking about space weather, I have some questions about the Australian Climate Service. I just found out that Ms Woodburn—

Dr Johnson: The late Ms Woodburn!

Senator DAVEY: The non-terminated Ms Woodburn!

Dr Johnson: We welcome her to the table.

Senator DUNIAM: Rumours of your termination were greatly exaggerated! You had better talk to the chief financial officer, whoever they are.

Dr Johnson: They were sitting next to one another.

Senator DAVEY: Australian Climate Services is described as a partnership between the bureau, the CSIRO, the Bureau of Statistics and Geoscience Australia. My understanding is that currently the bureau is the accountable authority; is that correct?

Dr Johnson: I'm the accountable authority.

Senator DAVEY: An independent review was conducted because of the rapidly growing demand for climate and disaster risk information. Of the 11 recommendations, one was to transfer responsibility for the emergency management support functions from the ACS to NEMA; is that correct?

Dr Johnson: That is correct.

Senator DAVEY: What will that look like?

Ms Woodburn: In the first three years of the Australian Climate Service, we pulled together weather and hazard data and joined that with exposure vulnerability data to help inform emergency management. We had a range of teams, including bureau teams, who sit in the national situation room. We uplifted a range of data tools such as supply chain impact modelling, which would enable in an emergency situation or in a relief recovery situation for decision-makers to have more accessible information. We have now worked closely with NEMA and we've transitioned that over to NEMA. Through machinery-of-government change we've provided the resources that we allocated to that part of our work and worked closely with NEMA to hand those services so they do them more directly, which enables us to look at the medium to longer term risks. That is really about trying to get ahead of some of those challenges that communities are facing.

Senator DAVEY: Could you break down what portions of ACS have gone to NEMA and what you retain?

Ms Woodburn: Yes, emergency operational services. There's \$12.6 million from this financial year that we've transitioned over to NEMA. That includes services that the bureau now provides bilaterally to NEMA, which is a small team that sit in the national situation room. They provide weather, hydrology, space weather services and others to the national situation room. There are a range of services from the ABS and Geoscience Australia which provide exposure and vulnerability data. Who's there, where are they, what sort of population statistics and what's the attributes of those communities? Then there are two projects that were short uplift projects. One is a CSIRO project which looks at uplifting supply chain models to make it more accessible for decision-making. Essentially, we turned a scientific model into a tool that could be used for decision support. That project for its last year is now in NEMA. There's one on smoke forecasting that is again a CSIRO project which is a short-term project that uplifts some science and makes it more practical and accessible.

Senator DAVEY: The bureau has transferred \$12.6 million to NEMA. Have any staff gone as well?

Ms Woodburn: No staff have left the partners. The ACS has an allocation. As a Type F agency we get a budget allocation and an ASL allocation through the machinery-of-government change. Funding has gone to NEMA. No ASL have gone, but some ASL have left the ACS cap and in this case have gone to the bureau to support the national situation room team. Some 12 staff have left my cap and have moved to the bureau.

Senator DAVEY: You're down 12; the bureau's up 12?

Ms Woodburn: It is the same people though.

Senator DAVEY: It is the same people; it is just who is signing the paycheque?

Ms Woodburn: Correct.

Senator DAVEY: Or which branch, because you're still within the bureau—

Ms Woodburn: That's correct.

Senator DAVEY: as we've ascertained today.

Senator McAllister: The big picture way to think about it, which was alluded to in the earlier evidence, is that when the Australian Climate Service was first established it was intended to provide both short-term information that would support in a very near-term way the functions of the emergency agencies but also to provide medium and long-term strategic analysis to allow agencies to undertake resilience planning and prepare for longer term thinking about climate adaptation. The finding of the independent inquiry was essentially that those two functions were in tension with one another in a way in a single organisation that was unproductive and that it would be better for the short-term work to be administered by the Emergency Management Agency directly to allow greater focus to be brought to the medium to longer term work which remains the responsibility of the Australian Climate Service. That is not to say that you may not ask Ms Woodburn to explain all of the detailed ways that's been implemented, but that's the sort of big story of the reform.

Senator DAVEY: Thank you. That simplifies it quite a bit. Because there's so many acronyms, where does the National Disaster Risk Information Services Capability fit within the ACS? Is that separate or has it been absorbed?

Ms Woodburn: Essentially, that was an early concept of what the ACS has now turned into. From a data and ICT perspective, how do you connect that data in a meaningful way for decision-makers? There was a pilot. We've learnt from that pilot, worked with customers, NEMA and the department and worked through. Now the Australian Climate Service hosts a range of different tools that service that similar sort of need.

Senator DAVEY: Because the other one that keeps popping up is the Environmental Information Service. Is that within the ACS?

Ms Woodburn: No.

Ms O'Connell: It is part of the department—Environment Information Australia—and it holds environmental data. It will do things like release future state of the environment reports, et cetera. It's part of the department.

Senator DAVEY: Does it rely on the ACS for some of its information? I'm sure I read somewhere that EIA and ACS were linked. I'm trying to follow the bouncing ball.

Ms Woodburn: Certainly, the ACS independent review has identified that as an opportunity. The government is still considering that part of the review. Regardless, the Australian Climate Service has a range of data that we are trying to make accessible to not just Environment Information Australia but many parts of government. We have a range of climate data that definitely Environment Information Australia will need and want. We've started some early discussions about how do we best connect that, and it's a bit of a two-way thing. How do we then get access to some of their natural resource data to enhance how we do climate risk and understand future risk.

Senator DAVEY: I also want to ask Dr Johnson—you'll be very pleased that I haven't let it go—about the flood gauges—

Dr Johnson: Something we both have a passion for.

Senator DAVEY: Absolutely. You were given \$236 million in the 2023 budget to acquire all Australian flood warning systems?

Dr Johnson: Not quite. We were given up to \$236 million to deal with high-priority catchments—not all. Certainly, that \$236 million doesn't cover every flood gauge.

Senator DAVEY: Not every one?

Dr Johnson: Not every one, no. We'll try to get as many done as we can within that envelope, but it's certainly unlikely to be all.

Senator DAVEY: That \$236 million was over 10 years. You're commencing in Queensland?

Dr Johnson: We are well underway. I'm pleased to report we're on schedule; indeed, we had the pleasure of Minister Plibersek at one of our first sites at Kamerunga, just north-west of the city of Cairns, in September. Dr Stone was there. I was unwell. We're well underway, on schedule and on budget. I'm also pleased to report that the last time we had a discussion we were still negotiating cost-sharing agreements with the states. I'm informed that all of those are now complete, with the exception of the ACT and Tasmania, and are in place. Dr Stone may wish to elaborate a bit more. If you have particular interests in New South Wales, I know it is something we've talked about here in the past as well.

Senator DAVEY: I do, because I was going to the Northern Rivers. While we're talking about the work that you have commenced in Queensland, have you got numbers as far as how many gauges you've actually transferred ownership of? I know that some are going to be upgraded.

Dr Johnson: Correct.

Dr Stone: I'll just take you through the figures that I have to hand. We have started work in Queensland. The whole program is running to schedule and budget so far, so it's all good. In Queensland, over 1,000 flood warning assets will be acquired and remediated under the program. High-priority catchments have been agreed with the Queensland government and with 64 local councils. Some 594 sites in 43 catchments have been identified for the initial program of work. It will be completed by June 2029. We're starting on those 594. While we're doing that, we're still in discussions around identifying the other 400-plus that we'll do. Some 200 sites are scheduled for acquisition and remediation this financial year, so before the end of June 2025. As Dr Johnson mentioned, capital works began at Kamerunga Bridge in Cairns on 3 July. There was a Little Bohle alert in Townsville before the end of this month. There's ongoing working in the Burrum-Cherwell catchment where 11 of the 12 sites have been completed. I can go on.

Senator DAVEY: That's good. Clearly, progress is being made because you'll get over half done by June 2029 in Queensland. Please tell me that work in Queensland does not preclude your commencing in any other state?

Dr Johnson: Absolutely.

Senator DAVEY: There was delay in other states related to the cost-share arrangements, but now you've entered those agreements you can start doing this same level of work to scope sites, identify high priority, et cetera?

Dr Johnson: Spot-on.

Dr Stone: I can give you the dates when we're looking at state scale. Capital works started in Queensland in that 2023-24 financial year period; New South Wales in 2024-25; and the remainder in the 2026-27 financial year. That's just because of the sheer volume of work. The majority of the work is in Queensland and New South Wales and, because of the flood risk and the condition of some of the assets, that's why we're starting in those two places.

Senator DAVEY: Would I be safe to say that, in terms of work around the Northern Rivers in New South Wales, there are already discussions occurring?

Dr Stone: Absolutely. In New South Wales in general over 250 assets will be remediated and acquired in catchments that have been agreed with the New South Wales government and local councils. Northern Rivers has been a priority. The first workshops to identify specific assets will be completed within the next couple of weeks. That's been with the Byron, Tweed, Ballina, Clarence Valley, Bellingen and Nambucca shires.

Senator DAVEY: That's a really good update. Thank you very much. I'm happy to share the call.

CHAIR: Thank you. We'll go to Senator Duniam.

Senator DUNIAM: Picking up on some of the questions Senator Pocock was asking before around ROBUST, on notice can I just have—and you may have provided this in part—detail around how the \$866 million has been spent? That would be helpful, as far as you can. Now that the project has closed, I suppose you can provide a bit more detail, but that would be helpful. In your opening statement you referred to the transition work where the bureau will draw upon funding allocated in the 2020-21 budget to sustain the benefits of ROBUST. Was that funding set aside and available to draw on? Can you explain that?

Dr Johnson: The previous government made a decision. Obviously, a whole range of circumstances led to the situation that caused the initial cyber intrusion and the sustained outages. If I characterise it briefly, it was sort of systemic underinvestment over decades in the bureau's technology capabilities. Cabinet made a decision that the bureau required some ongoing sustainment funding, particularly in technology, IT and observing areas, to sustain the benefits of ROBUST so that we didn't find ourselves in three or five years back in the same situation that led to the initial crisis, for want of a better word, in 2015 and 2016. Given that year's delay in completion, the central agencies were happy for us to utilise that funding that had already been appropriated in 2021 as a legitimate purpose to deal with the overrun in budget for ROBUST.

Senator DUNIAM: There have been no funds drawn from any other source within the bureau for—

Dr Johnson: I can triple-check with the CFO. I think there's been a very small amount—about maybe \$2 million—drawn from core bureau funds out of it. Most of it is coming out of that bucket that I mentioned before.

Senator DUNIAM: Could you quantify those that have withdrawn from elsewhere?

Dr Johnson: I'm happy to do that.

Senator DUNIAM: That would be helpful. All funds allocated for ROBUST, being the \$866 million, were spent on ROBUST?

Dr Johnson: Originally there was \$788 million and we ended up spending \$866 million.

Senator DUNIAM: Of the \$788 million, that all went in that expenditure?

Dr Johnson: That's all been expended.

Senator DUNIAM: In your opening statement, you said we got 90 per cent of the way there. If we talk about the 90 per cent first, can you run us through the benefits that will be felt in forecasting for the bureau? What sorts of benefits will we see there?

Dr Johnson: Certainly. For your information, the last gateway review that we will have, probably in 10 months, will focus on the benefits in actually formally quantifying and providing assurance to government around the benefits. For the purposes of this hearing, I'd probably characterise it in three ways. At a whole-of-program level, the capability that the government has invested in us makes the bureau more secure so we're less vulnerable to attack by adversaries. Regrettably, we are under constant attack by entities whose interests don't align with this nation's. It will make our systems more stable, so the number of outages that we have across our networks will be less. There still will be some. We deal with very complex and sophisticated equipment. There will be outages but, more importantly, there will be fewer. In the event of an outage, we'll have a capacity to respond more quickly so that in terms of the impact on the community, whether it's forecast warnings, space weather imagery, radars or whatever it might be, we've got a capacity to bounce back quickly.

Within that macro subset, the capacity to have the second disaster recovery supercomputer is a huge intervention to mitigate risk. It is also a national asset that we're working more broadly on with the Australian scientific community to make available for other uses—there's positive spillovers there—during times where we don't need it for backups. At that macro level, that security, stability and resilience story is an important one. As I said in my opening statement, there's a whole bunch of new kit that's come onboard—new radars, new flood gauges, balloon launches that take profiles through the atmosphere, things called ionosondes which are up in the ionosphere and help us understand that—and all of those things are vital. The more data we have, the better data we have. The more reliable data we have, the better forecasts and warnings we can provide to the community.

We've also upgraded many of our software and other applications. There is our new tropical cyclone warning service, the new flood warning capability—I'm sure a question is probably coming soon—and the tsunami warning capability. We had a little glitch the other day with the test, but the underlying technology is excellent there. We've got a much more secure tsunami warning system. Those basic forecast and warning systems that the nation depends upon every day have also received an uplift.

As I mentioned before, the website is the most visited website in the Australian government. We're getting a new one that is coming. It's in testing at the moment. There is a general uplift in the bureau's capability, particularly around procurement, contract management and program management. This is an enormous project. It's the largest program that the bureau has attempted in its 118-year history. At its peak, I think it was one of the largest civilian technology programs in the Commonwealth. In undertaking it and delivering it successfully there has been an enormous amount of learning and capability uplift in the bureau that again will have positive impacts for our organisation and the services we deliver.

Senator DUNIAM: Forecasting ability has improved not just in the warnings space but in—

Dr Johnson: The technology we use to support our meteorologists to issue our forecasts and warnings has been upgraded. I've given a couple of examples around tropical cyclones and tsunamis. Also, that technology is more stable and secure. Again, some of our adversaries would have a keen interest in that technology not being available at times of national crisis, for example.

Senator DUNIAM: Let's hope we never have one. Being prepared is obviously the right way to go. You mention a fuller outline of that down the track. On notice, can you say whenever that is? I think this committee would benefit from that. In terms of the balance, the 10 per cent we didn't get to cover, what are we missing out on in terms of capacity as a result? I know it's probably not as simple as that.

Dr Johnson: It isn't, but it's not an unreasonable characterisation. It's not that we're missing out on it. Probably the three examples I gave in answer to an earlier question would probably be instructive. We have the website. Our new website is undergoing beta testing by the community at the moment. Obviously we've got to move from a beta to launch, and we're undertaking a series of progressive releases—for example, improvements—in response to the feedback we get from our customers in our community. There will need to be money spent and time to go

from beta phase to full-blown launch. Another example would be our disaster recovery supercomputer. It's active. It's operational. It still requires ongoing further testing and tuning, and that will take just a little bit more time. In terms of automatic weather stations, there's still work to be done around some of the sensors that we use in those. That work is wrapping up. The guts of it are done, but none of those three examples would be justification to sustaining a program with ROBUST with all its governance and everything else like that. We can do it as part of BAU.

Senator DUNIAM: That's helpful. Thank you. In terms of the administrative costs that would be associated with the personnel working on ROBUST office facilities, et cetera, is that all included in the \$866 million?

Dr Johnson: Yes.

Senator DUNIAM: That is a, yes. With regard to the end cost being what it is, when was the minister first made aware of the \$866 million as it is today?

Dr Johnson: I would need to take that on notice. Can I just double-check with my colleagues in the room to see whether we've got that date? I can assure you that, in the life of a seven-year program, we've had four responsible ministers during it. All four ministers have been engaged, well briefed and supportive of the bureau team during that process, including Minister Plibersek.

Senator DUNIAM: On notice is fine. Thank you. Rick Morton of the *Saturday Paper* reported that the national production desk for the whole country's forecasting can shrink to four people for the overnight shifts. Is that the case?

Dr Johnson: If you have questions about that, we actually have our general manager of national production here, Mr Logan, so he'll be able to give you precise and accurate information on staffing.

Senator DUNIAM: Did you hear my question before?

Mr Logan: I did.

Senator DUNIAM: Is that the case, that it can shrink to four people for overnight shifts?

Mr Logan: That is correct. That is for routine production of public weather. There are other staff on shift overnight for aviation services but, from a public weather point of view, that's correct. The way the rostering works is that basically, depending on the weather that's coming up over the coming 10 days, we would augment that with whatever specialist capability is required. There's no way that, if there was a tropical cyclone around or something like that, you'd only have four staff on overnight. That is our base roster. Then you would augment from there.

Senator DUNIAM: I think there would be a few more people. It is routine that there would only be four people on the overnight?

Mr Logan: Yes, and it phases off.

Senator DUNIAM: I suppose that's in the early core hours of the morning?

Mr Logan: Yes. People across the country roll off at different times depending on their functions and what their roles are.

Senator DUNIAM: But supplemented by others in other functions?

Mr Logan: Yes, because that's only the public weather component. Obviously, there are aviation specialists servicing the aviation industry who are on overnight as well.

Dr Johnson: There is defence, space weather—

Senator DUNIAM: Mr Morton also states that, while the number of forecasters working on floods and bushfires has increased, is it by only five positions or was it more?

Dr Johnson: Numbers certainly fluctuate year on year, as you would expect. This year we have more meteorologists, hydrologists, climatologists than we've ever had in the bureau. There are ups and downs obviously with staff attrition and new graduates coming on board. If you have a detailed question around year-on-year numbers, I'll be happy to take it on notice.

Senator DUNIAM: It is those timelines around that as well.

Dr Johnson: It depends on what time line you ask, to give you an accurate answer.

Senator DUNIAM: Yes, given the ebbs and flows. I'll come back to you with a bit more of a time frame on that. Has it ever been the case that a forecaster has been prevented from correcting known errors in forecasting models?

Mr Logan: I will go into that question, if you don't mind. I wouldn't characterise them as known errors in the forecast models. I'll explain why. For Canberra today, that was a relatively straightforward forecast. It's a nice day here. If the computer guidance had come out and said today was going to be 40 in Canberra, that one would be like a known error because it's unrealistic. The way the process works is that the national production team take the guidance, which is the best available starting point for Australia, and using verification of that guidance you understand the strengths and weaknesses of it. If verification shows a bit of a weakness in the guidance, you develop forecasting techniques to address that and improve on that guidance. We test those techniques. We do a bit of a cost-benefit analysis on them. You don't want to spend ages doing these corrections if it doesn't actually have that much impact. If it's shown to have good impact and it improves the quality of the bureau forecasts, those techniques are documented. Then they become repeatable/reproducible every time those situations arise. That helps improve the accuracy of the forecasts that go out to our customers. That's the general approach. It's very much verification-driven, understanding the strengths and weaknesses of the guidance, making sure that there is value in what's actually been changed.

Senator DUNIAM: That's helpful in terms of understanding a process or a methodology that's deployed there. There was a question on notice, No. SQ24-000715.

Dr Johnson: And the subject matter was?

Senator DUNIAM: That was relating to—

Dr Johnson: Yes, I have that.

Senator DUNIAM: It states that 881 contractors worked on ROBUST over the life of the project at a cost of \$406.6 million.

Dr Johnson: Yes.

Senator DUNIAM: Are those costs built into the \$866 million or are they in addition to?

Dr Johnson: No, that's incorporated within that \$866 million.

Senator DUNIAM: In terms of costs of consulting and contracting to the bureau during 2022-23—I think it was on page 217 of the annual report—there was a 32 per cent increase. Is that accurate?

Dr Johnson: I will ask either our general manager of organisational development or perhaps the CFO at the table for that level of detail, but are you talking about table 1.1B?

Senator DUNIAM: I believe that is it, yes.

Dr Johnson: And the figures you are seeking guidance on?

Senator DUNIAM: In relation to consulting and contracting, you have gone in 2023 from 1,879 to 7,722 for consultants, and contractors, 45,527.

Dr Johnson: I see where you're at. I'll ask Ms Stone, our chief finance officer, to comment.

Senator DUNIAM: Did you hear the question?

Ms Stone: In terms of the numbers in 2022-23, you're specifically asking about what the increase was in relation to?

Senator DUNIAM: Yes. You have 2022-23 through to 2023-24, I gather. What does the increase relate to?

Ms Stone: From 2021-22 to 2022-23 or from 2022-23 to 2023-24?

Senator DUNIAM: Page 217 of your annual report, for 2023-24.

Ms Stone: From our financial statements, the increase in our contractors?

Senator DUNIAM: Yes, correct.

Ms Stone: The increase relates to a couple of things. One is that we were still continuing with the ROBUST program. The level of contractors there relates to some of our operational contractors within ROBUST, noting that expense you see there is just the supplier expenses. We also had contractors on capital projects who aren't represented within that number.

Senator DUNIAM: I wonder if on notice I can get a breakdown of, for example, what was ROBUST and anything else perhaps in terms of that period of time. Is that in addition to the \$406.6 million, or is that part of it?

Ms Stone: That's part of it.

Senator DUNIAM: So it's all encapsulated in that?

Ms Stone: Yes. I can give you the breakdown if you want of ROBUST contractors?

Senator DUNIAM: Perhaps on notice if you're able to that would be good. I'm tempted to ask how the financial—

Ms Stone: I have an answer for you.

Senator DUNIAM: Do you? Could you give me the answer? I'm sure Ms Woodburn wants to know, too.

Ms Stone: It's actually a printing error. It's not in the source data. That doesn't make it right. We should have identified that in the annual report, but it's not in the source data. It's a printing error.

Senator DUNIAM: So it hasn't thrown out the entire bureau's accounting for the financial year?

Ms Stone: No, but I accept it's still not right.

Senator DUNIAM: Drinks aren't on Ms Woodburn after estimates today! That does me, thank you.

CHAIR: We'll now go to Senator Davey.

Senator DAVEY: I just want to get a few updates on some ongoing work, particularly with regard to water trade reform and water information reform. As of 1 July this year, new data accuracy on trade form obligations has been introduced and the bureau has a role to play in that. The bureau is collecting all of that information; that's correct?

Dr Stone: Sorry? I missed the first part of the question?

Senator DAVEY: This is regarding new data accuracy on water trade forms that has come into force as of 1 July. You're now collecting all of that water trade data as it comes in. Is it publicly available yet or is that still just the collection mechanism? How are we progressing with making water trade information almost real-time and publicly accessible?

Dr Stone: My understanding is all of that will be completed by June 2026.

Senator DAVEY: But you are getting that information that is coming in to you as of now?

Dr Stone: There are a few steps. Have I understood you correctly?

Senator DAVEY: Run us through the steps and that way it might help me clarify which questions I should be asking.

Dr Stone: I'll just check. There are three main pieces of work that we're doing. There's the water information portal that finished a little while ago.

Senator DAVEY: Yes, I've been on that. I've checked to make sure it's all working. It was a bit slow to load today, but it's working.

Dr Stone: The three main ones are the water data hub, which will collate water markets data and other water information from state registers, irrigation infrastructure operators and intermediaries who facilitate water trades. The second is the new water markets website, which will make available trade and pretrade data in near real-time to provide information to market participants. The third piece is the water markets data standards, which will set out precisely what data and metadata has to be collected and provided to the bureau, how often, the means by which that will be provided and by whom. That's work that's in train.

Senator DAVEY: The water market standards are not yet in place?

Dr Stone: No, they're in consultation.

Senator DAVEY: When you say the water markets website will provide trade and pretrade information, can you give me an example of what pretrade information is?

Dr Stone: Bids and offers will be the pretrade information, and it will also have trade data—the water that has been sold.

Senator DAVEY: When you say bids and offers, will that be a requirement or will that just be if people have lodged a bid through maybe another exchange or a platform? If I'm talking to my neighbour, do I have to then get online and say, 'I'm thinking of buying my neighbour's water and I'm thinking of paying this', or is it just an extra tool? There are already some open exchanges. Is it collating that sort of information in one place?

Dr Stone: That's a great question. We're absolutely conscious of regulatory burden. If you like, near real-time will be restricted to major trades and brokers. For neighbour to neighbour, it would need to be lodged but not necessarily in real-time.

Senator DAVEY: That would be once the trade has been agreed—not just prior to when you're having the chat across the fence?

Dr Stone: Correct.

Senator DAVEY: Once you've agreed on a trade, that's when you actually have to register and provide all the information. We discussed earlier today with the Inspector General the strike price, the price you agree on today, 8 November. The actual trade may not be registered for a few days. Sometimes, depending on which jurisdiction you're in, it could take weeks and the market could move. The strike price and the date of the strike price is actually really important to people, but at the moment that's not reported anywhere. Will that come into this information?

Dr Stone: A strike price will be.

Senator DAVEY: And the date of the strike price?

Dr Stone: Yes.

Senator DAVEY: Because the market moves, that date's quite important. The water data hub is due for completion in June 2026?

Dr Stone: Yes.

Senator DAVEY: When is the water markets website due for completion?

Dr Stone: I think that's at the same time. If it's okay, I'll confirm that on notice.

Senator DAVEY: I'd appreciate that. I note that particularly for the water data hub, as you said, you're talking to water brokers, to other intermediaries and to irrigation infrastructure operators. One of the concerns that has long been raised is for their systems to talk to your systems. There may be upgrades. Have there been conversations around whether or not there could be assistance for them to manage those upgrades? Has that been resolved?

Dr Stone: I'm not sure it's been resolved. We're continuing discussion of what the standards actually are and are seeking to create the water data hub so that it can actually accommodate numerous methods of bringing the data in. Hopefully, most of them are machine to machine so that it really doesn't involve human intervention. On the smaller trades where people aren't brokers or what have you, there will be a simple means set up to provide information. My short answer is, 'No, it hasn't been resolved', but we're in continual discussions and we're still designing it. We are extremely mindful of the benefits to everybody of making it as cheap and easy as possible to provide the information.

Senator DAVEY: Just because I have the department and the minister here, and still on water market reform: is the water broker code of conduct or water intermediaries code of conduct progressing?

Senator McAllister: We had the people who could have answered that this morning before lunch, but I can take it on notice and come back to you.

Senator DAVEY: I am happy for you to take it on notice because I should have asked this morning, but I was so distracted by all the other issues in this water space. That brings me to a conclusion.

CHAIR: Thank you kindly, Senator Davey. How exciting! It's a Friday and everyone's about to get an early mark. We will now conclude today's hearing. I'd like to thank very much Dr Johnson and all of his officers for coming along and spending a lovely Friday afternoon with us. I'd like to thank Broadcasting and Hansard for their amazing work, and I thank our long-suffering, amazing secretariat. I would also remind senators that the committee has agreed that any written questions should be lodged with the secretariat by 14 November.

Committee adjourned at 16:26