



COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

JOINT COMMITTEE ON PUBLIC WORKS

**Reference: Office replacement of the Bureau of Meteorology at Willis Island, Coral
Sea, Queensland**

FRIDAY, 12 AUGUST 2005

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**JOINT STATUTORY COMMITTEE ON
PUBLIC WORKS**

Friday, 12 August 2005

Members: Mrs Moylan (*Chair*), Mr Brendan O'Connor (*Deputy Chair*), Senators Parry, Troeth and Wortley and Mr Forrest, Mr Jenkins, Mr Ripoll and Mr Wakelin

Members in attendance: Senators Parry and Troeth and Mrs Moylan, Mr Brendan O'Connor and Mr Wakelin

Terms of reference for the inquiry:

To inquire into and report on:

Office replacement of the Bureau of Meteorology at Willis Island, Coral Sea, Queensland.

WITNESSES

BARRELL, Dr Susan Lesley, Assistant Director, Observations and Engineering, Bureau of Meteorology 1

BROWN, Mr Craig Thomas, Project Manager, GHD Pty Ltd 1

McBEAN, Mr Laurence Joseph, Supervisor, New Facilities, Engineering Services, Bureau of Meteorology 1

WHITEHEAD, Mr Michael John, Acting Executive Officer, General Services, Bureau of Meteorology 1

Committee met at 9.36 am

BARRELL, Dr Susan Lesley, Assistant Director, Observations and Engineering, Bureau of Meteorology

McBEAN, Mr Laurence Joseph, Supervisor, New Facilities, Engineering Services, Bureau of Meteorology

WHITEHEAD, Mr Michael John, Acting Executive Officer, General Services, Bureau of Meteorology

BROWN, Mr Craig Thomas, Project Manager, GHD Pty Ltd

Witnesses were then sworn or affirmed—

CHAIR (Mrs Moylan)—I declare open the public hearing into the redevelopment of Willis Island meteorological office, Coral Sea. This project was referred to the Joint Committee on Public Works on 2 June 2005 for consideration and report to parliament. In accordance with subsection 17(3) of the Public Works Committee Act 1969:

- (3) In considering and reporting on a public work, the Committee shall have regard to -
- (a) the stated purpose of the work and its suitability for that purpose;
 - (b) the necessity for, or the advisability of, carrying out the work;
 - (c) the most effective use that can be made, in the carrying out of the work, of the moneys to be expended on the work;
 - (d) where the work purports to be of a revenue-producing character, the amount of revenue that it may reasonably be expected to produce; and
 - (e) the present and prospective public value of the work.

I welcome the representatives of the Bureau of Meteorology and once again thank you for the confidential briefing. The committee has received a submission from the bureau. The submission will be made available in a volume of submissions for the inquiry and is also available on the committee's web site. Does the bureau wish to propose any amendments to the submission it has made to the committee?

Dr Barrell—No.

CHAIR—I now invite you to make a short statement in support of your submission.

Dr Barrell—I am grateful for the opportunity to make this statement in support of the Bureau of Meteorology's submission to the parliamentary Joint Committee on Public Works in relation to the redevelopment of the Willis Island meteorological office. The Willis Island meteorological office is a unique and important scientific facility, one of the few observing stations in the world

providing a full range of surface and upper air meteorological observations in a true maritime environment. The Bureau of Meteorology has been operating a staffed observing station on Willis Island since 1921 and it serves an important role in the bureau's national observing network.

Willis Island is a key monitoring and early warning facility for the tropical cyclones that provide an annual threat to the population and economy of the North Queensland coast. The bureau established the station in 1921 in response to the devastating impacts of two severe tropical cyclones in 1918. Both were category 4 systems. The first destroyed Mackay in January. The combined effects of the very destructive winds and a 3.7 metre storm surge caused the loss of 1,000 homes and 13 lives, although that is now believed to be an underestimate of the lives lost as it is suspected that Indigenous losses were not included at that time. In March 1918 another severe cyclone caused substantial damage to Innisfail.

In addition to its early warning role, the location of the station, remote from continental based influences and free from a substantial human presence, enables it to provide an invaluable source of data on long-term climate trends and variability over the tropical oceans and in the environmentally sensitive Coral Sea area. Willis Island is also an important part of Australia's contribution to international meteorology, particularly in relation to monitoring global climate through the Global Climate Observing System or GCOS. The station has been designated for many years as a GCOS surface network station. On the basis of its long, high-quality record and its location, it has recently been invited to become part of the GCOS upper air network, of which there are currently 161 stations worldwide.

The buildings and infrastructure on the island are old and, as you have seen, potentially unsafe both structurally and in terms of their asbestos content. They are in urgent need of replacement if the station is to be retained as a staffed station in the bureau's network. Given the expected high cost of such a rebuilding program compared to mainland stations, the bureau has given careful consideration to the scientific value and benefits of the observing program and the full initial and ongoing costs associated with rebuilding and operating the station. A number of alternative strategies have been explored, including automating some or all of the elements of the observing program. Automated and remotely operated observing systems are readily achievable for surface data, although there would be some loss of visual input.

The risks associated with the implementation and operation of an automated radar relying solely on a non-grid power supply and in an extremely remote and environmentally exposed site are considered to be substantial. Further, it would not be at all possible to operate an automated upper air program on the island. Both of these would be a significant loss for both climate and forecasting purposes. In summary, the only viable option is to replace the buildings and facilities on the island to provide a safe and fit-for-purpose living and working environment for a staff of four bureau officers who serve six-month postings on the island.

The bureau commenced planning for the replacement of the facility in early February 2002. In June 2004 the island was temporarily destaffed to enable the rebuilding and re-equipment work to proceed over an 18-month period. A fully redundant automatic weather station remained on the island to maintain the bulk of the surface observing program through the period, but it was necessary to discontinue the upper air and radar program for the period. The risks of this program loss were weighed up against the efficiencies and increased staff safety through

allowing the demolition and rebuilding program to proceed without technical staff on the island. Further efficiencies are also provided through being able to install the replacement observing equipment at the same time as the rebuilding process.

The bureau has now completed the final design of the station, which will provide a safe and effective working and living facility for staff while minimising the environmental impact of the station. We are ready to proceed, with the approval of the Public Works Committee, to finalise the process for the construction of the station with the hope of completing the works and commissioning the station before or in the early part of the coming tropical wet season. We appreciate your early consideration of our submission and welcome the opportunity to respond to any questions you may have regarding our proposal.

CHAIR—I think it is important that we cover off on some procedural issues at the beginning. In your submission, at point 16, you have a date for completion. I understand that you actually started preparing for this project—I think you initiated a temporary 18-month destaffing process. So 12 months ago, on 2 June 2004, there was the preparation work and yet this was not referred to our committee until June of this year. I am not sure of the background but maybe you could explain first how the bypassing of the Public Works Committee actually came about. Under the act, as you are now aware, anything over \$6 million should be referred to the committee, and before the documentation and design work commences.

Dr Barrell—We certainly had the Public Works Committee process firmly built into our schedule but I think, in error, we had it too late in the process. There was some misunderstanding of how far we could go along a track towards putting up a submission to the committee before we needed to lock in various steps of the process. In error, by our own admission, we went too far along the process. Having gone that far, we halted the process once it became clear to us that we needed to finalise this step. That is the background.

CHAIR—Is it just that somebody did not think that it needed to be referred?

Mr Whitehead—We made approaches concerning the PWC referral. The bureau has looked at a number of options as part of its evaluation of Willis Island, including the scientific value and the costing, and a formal decision to proceed with the project was not made until earlier this year. Whilst we had a destaffed station, the executive of the organisation had provided permission to proceed to a point where we considered all the design implications and the cost implications without actually proceeding any further. They wanted to be sure in themselves that the value of continuing with this project was warranted.

CHAIR—I will not discuss in this public hearing the confidential costs but we were talking this morning, on a broad-brush basis, about the professional design costs and I think a little over half of those have already been expended. Does that mean they were expended on the basis that you did not know whether or not this project was going ahead?

Mr Whitehead—They were expended to ensure whether or not this project should proceed. They were costs to conduct structural assessments of the island, to look at the design and at the overall costings of doing the project. They were preliminary costs to ascertain whether or not the project should proceed.

Dr Barrell—Part of our analysis, as I said, was looking at the scientific merit of the proposal. We knew it was going to be a very expensive station. The bureau operates a number of stations in remote locations—we have others like Macquarie Island and Cocos island—and they are all expensive to operate, so we needed to be comfortable in ourselves about the scientific merit. Time has moved on: in the 40 years since we first established the station there have been great improvements in satellite technology and in the ability of numerical models to simulate the atmosphere and to do prognoses. So we needed to look at the relative merit of Willis Island data compared to the broader data we had available and at alternative ways of actually operating the station, such as whether we automated it or not. These studies were going on at no cost—no external costs; they were internal to the bureau—through this period of time.

CHAIR—I understand the dilemma you have, as to whether Willis Island is going to produce the kinds of results with modern technology that you are looking for. That is a scientific exercise, largely. But having established, I presume, the scientific rigour of the argument to retain Willis Island, you have then expended over half of the total estimated professional fee cost—which is not an insubstantial amount of money—in design fees and professional fees before you have made a decision to actually proceed with the development. I am not quite sure why.

Dr Barrell—Largely it was part of finalising the costs and giving us comfort that the estimate that we had initially had, some two years ago when we first started thinking about rebuilding the island, was achievable, given the broad options and the fact that it is a small market.

CHAIR—Let us accept your argument as you have put it. After you incurred all of that cost—getting the designs and getting professional advice—you then went out to tender.

Dr Barrell—Yes. We certainly had the PWC process firmly on our list. It is in our documentation from late last year, when we first started going through this process. The error we made was in understanding exactly when we needed to go through the formal Public Works Committee process.

CHAIR—The act is very specific on that point. I think it is important to get that on the public record. From our point of view, we get this quite a bit. I think we have done a whole year's work in four months of the working year, this year. Members of the committee have to try to fit the hearings into their normal schedule of sittings of parliament. We have really prided ourselves as a committee on getting through the processes and not holding up projects. We are often accused of holding them up, but what actually happens on many occasions is that the works are not referred and the information is sometimes not available for us to start our hearings. The committee has found this a bit of a problem. There was an occasion recently where letters were going between ministers saying that a particular project was being held up because of the Public Works Committee. That simply is not correct. It puts us in a very difficult position, it puts our secretariat under pressure and it is not a good look. I really want the point to be made in this hearing today that it creates a lot of problems when agencies do not refer the work in a timely manner. We really do try to get them through the system as quickly as it is practicable to do.

I will accept your explanation. We often encounter very unusual projects, and this is certainly in that category. I can appreciate some of the dilemmas you must have faced in trying to determine whether or not this project should proceed. But I am a little mystified. I can almost get to accepting why you might have needed to expend some professional fees to get an idea of what

sort of cost you might be looking at, but I am a bit mystified still as to why it went to tender without coming back to this committee. I would like that on the public record.

Mr BRENDAN O'CONNOR—I do not want to go to those matters. I have one quick question that I think is relevant and that I want you to expand upon. You indicated that, in evaluating the importance of this project, one of the considerations was not to continue with the facility. You mentioned in one of your answers to the chair that there were other technologies that might provide the same, similar or even better service. Can you expand on that comment?

Dr Barrell—Sure. When Willis Island was first established, back in 1921, we had no satellites; we had nothing. It was an amazing step forward to get observations 500 kilometres off the coast. We could never get that before. As time has gone on, we have used additional sources of data, particularly satellites, that give an overview of the weather patterns off the coast. We needed to evaluate the particular value that Willis Island itself added. We looked at it from a number of different aspects. We looked at the early warning aspect for tropical cyclones, which is particularly important for the Queensland coast; its contribution to the climate record; and its contribution to upper air observations. The data from all our upper air stations go into numerical models, and from that we develop prognoses that we use nationally and on a global scale.

Our assessment, after going through a fairly rigorous look at the value of Willis Island, was that it still does add considerable value. Quite clearly, it is not as unique as it once was but, at the same time, our capability to use data from different sources has increased with time as we have got better at numerical modelling, so it adds value in different ways. Perhaps most uniquely, in terms of our forecasters in Queensland, its critical value is the radar—the fact that it provides early warning of tropical cyclones that hit the Queensland coast. While we do have radars along most of the Queensland coast, the ability to detect the cyclones when they are further off the coast gives us the ability to provide those warnings.

Mr BRENDAN O'CONNOR—Is that something that cannot be done with satellite?

Dr Barrell—Satellite can give you some information, but it does not give you detailed information on the structure and the eye of the cyclone. Cyclones move very erratically along that coast. They are fairly slow moving but they are very erratic, so it is important to get the changes in their movement as early as possible.

Mr BRENDAN O'CONNOR—Are there capacities for Willis Island and its facilities to forecast other types of weather changes that are also ominous or dangerous, such as earthquakes, tsunamis or anything like that?

Dr Barrell—Not earthquakes. For tsunamis, not in a prediction mode, but certainly if there was a sea-level monitoring station. I am not sure whether one is planned for Willis Island in our next round but we are looking at sea-level monitoring stations along the coast. Typical observation at Willis Island is surface observation, so you get the surface parameters. A balloon with a radiosonde package goes up through the atmosphere, so we get a profile of temperature, humidity, pressure and wind right up through the atmosphere. As I said, that data goes into our numerical models and is the basis for all of our forecasting. It is an important datum that goes into our broader scale forecasting as well.

Mr BRENDAN O'CONNOR—I know that this is all dependent upon who ultimately is chosen to undertake the works, but what is the time line—and I am sure that is in the submission—from commencement to end?

Dr Barrell—Of the building process?

Mr BRENDAN O'CONNOR—Yes.

Dr Barrell—It is about six months, I understand.

Mr BRENDAN O'CONNOR—How will you manage that and how will that impact upon the current services and, indeed, the staff who are located there?

Dr Barrell—In fact, we have destaffed the island while this process is going on so that we can go through the construction process more efficiently, because we do not have to work around the staff, and it also makes it much safer for the staff. We have maintained a surface observing program on the island through an automatic weather station so that we maintain our surface record. That was particularly important because the island is part of the Global Climate Observing System surface network. The decision to temporarily stop the upper air program and the radar program was taken on balance. We understood the risk, in that there was a potential of a cyclone or of weather that we may theoretically miss because we had the station destaffed, but that was weighed up against the benefits that we saw through the construction process. Over the last wet season, while the island was destaffed, we coordinated with our Queensland office to make sure that they called in all the additional data they could to monitor the region so that we provided as good as coverage as we could through that period. It is certainly our intention, if we get the approval of the committee, to have the station operating as soon as possible. We could certainly get the radar operating by this coming wet season, which is our biggest exposure.

Mr BRENDAN O'CONNOR—Did you have people located on the island in 1921?

Dr Barrell—Yes. The station was set up originally by OTC, the Overseas Telecommunications Commission. Michael, would you like to comment on that?

Mr Whitehead—I am not strong on the history of the island, but in 1921 the bureau had two staff members out on the island and I understand that in the early days it was part of the Department of Defence. At some time OTC operated the island and they relinquished their control in 1966. I discovered that in part of the research we did for this hearing today. The bureau assumed responsibility for the island at that time and we have maintained four staff at the island ever since. Previously there were three wireless operators and two bureau staff members on the island.

Mr BRENDAN O'CONNOR—The next addition or construction occurred in 1950 and then in 1968?

Mr Whitehead—Yes.

Mr BRENDAN O'CONNOR—And there has been nothing of significance since?

Mr Whitehead—No.

Mr BRENDAN O'CONNOR—What would you anticipate the life of this proposed construction to be?

Mr Brown—The design is based on a 50-year life for the facility.

Mr BRENDAN O'CONNOR—You said that there were two people originally. Why has it been seen to be appropriate to have four staff?

Dr Barrell—When we first set up the station it only did surface observations and you can have two people doing that. Also, there were wireless operators on the island and they were trained as well. We now do a full upper air program as well, which means that we send up balloons, so we have a much more extensive program. Three of the people on the island are observers and the fourth person is a technician who maintains and looks after the equipment. With three people you can run a roster which basically takes you through most of the day.

Senator PARRY—I think you said the radar facility was the biggest exposure. Do you mean the exposure to the elements is detected by radar on site?

Dr Barrell—No, I mean that the most severe weather that we need to watch out for are tropical cyclones and so the radar is the critical piece of observing equipment—it adds the particular value in terms of being able to monitor tropical cyclones.

Senator PARRY—And that cannot be monitored remotely—it needs to be monitored on site? There is no way of remotely monitoring radar?

Dr Barrell—We did investigate whether we could operate it remotely. The bureau does have remote radars, at Gladstone and other places around Australia, where we do not have staff on site. The problem is access to non-grid power. On the island we do not have power. If we did not have staff there we would have to rely on renewable power. I think it would probably be unsafe to operate it with diesel.

Mr Brown—The reliability is an issue and maintenance becomes an issue. If mainland based stations break down you can send somebody in a car. For Willis Island, it depends on weather and availability of boats and is extremely expensive, so all the maintenance, and maintenance of the service, would be extremely difficult.

Senator PARRY—Has there been any research undertaken as to any future developments in technologies? We are building or proposing to build a 50-year facility. Is there anything on the horizon that may provide some other means of monitoring and detecting the atmospheric conditions that you want to monitor, or is the manual sending up of balloons still the most modern technological way of doing things? I am not belittling that process; I understand it is very important.

Dr Barrell—Balloons are the most accurate way of doing it. Satellite technology is improving all the time and we are getting improved ability from satellites to do soundings in terms of the temperature profile of the atmosphere from satellites. We can also do soundings of the

atmosphere with aircraft, at take-off and landing. But with all of that you still need ground truth. Satellites in themselves need to be tied to the ground, so to speak, so we need reference observations on the ground. Perhaps in 50 years time, when we are starting to think about rebuilding Willis Island, we would hope that satellites are providing a much bigger component of our observing program and maybe our surface program will be much reduced and may be providing more of that ground truth. But, for over the ocean in particular, the value of a location like Willis Island is probably even more paramount because it does provide that pinpoint ground truthing. So, certainly over the next 20 to 30 years, I think the value of the station will continue to be very important. It will be a key part of our network. By the time we look at replacing it in 50 years time we will have another look at how important it is and what particular value it does add, but we are certainly not looking at it being redundant in the near future.

Senator PARRY—So you are indicating to the committee that you are satisfied that the facility will not be redundant in the short term?

Dr Barrell—It certainly will not be redundant in the short term. In the longer term, we will have to look at how we use it—but I think we are talking about a fair way down the track.

Mr WAKELIN—The hybrid power generation system uses solely renewable energy. I think I understand why, but can you take me through that?

Mr Brown—The system is designed with two major components: system 1 consists of a six-kilowatt wind turbine, a five-kilowatt solar array battery storage and a 34-kilowatt generator. That should provide sufficient energy for the operation. System 2 is a stand-alone 60-kilowatt generator which will take the full load if system 1 is not operating. We estimate that the hybrid system could save up to 6,000 litres of fuel per year, which equates to about 16 tonnes of CO₂ gas. The system is designed in such a way that we can double the wind and solar components without any change to the infrastructure. The hope is that, if the bureau has funding in the future, we can expand hybrid power to have greater reliance on solar and wind power.

Mr WAKELIN—Staffing the facility during the wet season only is an option you have clearly considered. That raises the issue of the pattern of the cyclone season, which, I presume, goes from December to April.

Dr Barrell—We did look at that. Willis Island makes two key contributions to our observation system. It provides early warning for tropical cyclones, through its radar, and climate data. Staffing the facility for six months would certainly give us the key information on tropical cyclones but it would give us a gap in our climate record. We could maintain the surface automated system but we would lose the upper-air information. So we would not meet all the needs that we need to meet with the station. In terms of the costs of building the station, you still need—

Mr WAKELIN—You have suggested the refurbishment cost is negligible.

Dr Barrell—The difference in refurbishment cost would be pretty comparable. You would need two fewer bedrooms but that is about all. You would need everything else that is out there. You would also need quite a lot of security. With a radar sitting there for six months unused and no-one on the island, there are security issues.

Mr WAKELIN—It is a matter of cyclone performance versus total safety assurance. You have clearly measured all that in your normal standards. There is a phraseology which talks in terms of cyclone performance but also in terms of performance that guarantees the safety of staff. We presume they are the same thing.

Dr Barrell—Yes.

Senator TROETH—I want to take you back to the timetable that you are now looking at. After the chair's comments, the committee will immediately be looking at the information we have gleaned this morning, but we are obviously not likely to table the report in parliament until September. Could you give us a timetable for the approaching tropical cyclone season, which, I gather, will determine the time of construction? Have you now revised your expected completion date for the project?

Mr Brown—We have not fully revised the program, because we cannot start it moving until we get the PWC sign-off. As we said previously, we still believe that, given we have a sign-off in September, we can have the radar and the upper air operational. We will run into next year—probably March. That is unknown, because we do not know what the weather is going to do. Even if we had started earlier, the weather does play a fairly significant part in completing the whole construction works. All being well, the program will probably extend by about six to eight weeks over the six months from September. So that is going to run us into March-April next year, but it is certainly weather dependent, particularly as we run across the cyclone season. We are not quite sure what impact that will have. But if we get the majority of the operational components available to the bureau then the other things will have to wait. I cannot put it in any more succinct terms, because of those start dates and the issue of weather.

Senator TROETH—Will it affect the Bureau of Meteorology's full observation program if it is not completed on time?

Dr Barrell—Yes, it will. As I said, the surface observation will continue. We are hoping to have the radar operational pretty much in the time frame we are talking about—by the end of the year. The gap probably will be in the full operation of the station: that is, the resumption of the upper air program, which would be delayed. That would need the full staff on the station, so that would be the gap that we would have. Certainly, we will be pulling out all stops to have that done as soon as we possibly can.

Senator TROETH—With the warning services that you provide, are there other stations that will be able to give service to the community's homes and businesses on Queensland's coast if Willis Island is not fully operational?

Dr Barrell—We have a number of radars right up the Queensland coast. To a certain extent Willis Island provides an extra level of certainty about the movement of the tropical cyclones. By the time they get close to the coast we do have almost continuous coverage up that coast. With the combination of satellite imagery and the coastal radar we feel very confident that we can provide adequate warnings. What Willis Island does give us is that additional early lead time in terms of the movement of the cyclones. Forecasters know that they do not have that observation and that encourages them to use the other information as well as they can. We are hopeful that we can have it operating in time. If your September time frame approval is granted

then we have a fair degree of confidence—notwithstanding an early weather system coming through and slowing us down—that we can get there in time.

Senator TROETH—If cyclones and other things happen and you go to, say, March-April rather than the end of this year, will there be any significant impact on the costs, or is that factored into the cost estimate?

Mr Brown—Some of those costs are factored into contingencies, but it is unknown. If it is a particularly benign cyclone season we might be able to work right through with no impact. If it is the opposite, it could have an impact on the budget, certainly, but what that would be we do not know.

Senator TROETH—I wanted to ask you about desalination, which I gather provides the water supply on the island. Will that be a new desalination plant or the existing one?

Mr Brown—There are two desalination plants. One is a standby unit and one is an operational unit. The existing units were pulled out of Willis Island when the bureau destaffed the island. One of those has been fully refurbished, ready to go back, and there is a new one to go back in.

Senator TROETH—The use of desalinated water is interesting, given some of the water shortfalls we have had on the entire continent over the last couple of years. What would be the operating cost of that desalination plant? I gather it has enough water to supply up to 10 people, if necessary, given visitors. Is that correct?

Mr Brown—We can generate up to 3,000 litres of water a day, but it only runs to keep the tanks full. Once the tanks are full, it will not run. There will be a high usage in the initial start-up, but once the tanks are full, it will only run to keep the fresh water supply available. I don't know what its running costs are. We can take that on notice.

Senator TROETH—I would be interested in those. I also note that there will be rainwater collected by a gutter and downpipe system and discharge to the ground. Can that possibly be used to irrigate the vegetable garden or is there simply enough rainfall anyway to fall on the vegetable garden?

Mr Brown—There is enough rainfall.

CHAIR—I would like to ask some questions about hazardous materials in the existing building. On page 4 of your submission, point seven indicates:

... some of the Island facilities ... experienced significant deterioration. The presence of asbestos in the buildings presents a potential health hazard.

Can you explain to us whether there has been a complete analysis undertaken of what hazardous materials are in the buildings that are being demolished and what steps are being taken to safely manage the demolition and removal of the material? Could you tell us whether the material will be stored somewhere on the island and, if so, how will it be stored—or will it be transported elsewhere? What plans are there to safely dispose of it?

Mr Brown—In answer to the first part of your question, yes, there are asbestos products on the island, mainly the roof sheeting, which has been painted and sealed, so it provides no immediate health threat. We believe that there are other asbestos products in concealed spaces, but we have not done a destructive testing to find those. We certainly expect to find those in the demolition process, and the tender documents certainly talk to the notification of discovery of hazardous products and the way they are to be removed. All of the materials, including the hazardous materials, are to be removed from the island and brought back to the mainland. In particular, asbestos products will be stacked in black polythene, wrapped, taped, put on the barge and brought back and disposed in an approved waste facility.

CHAIR—I noticed in the submission that there have been some consultations or discussions with the Department of Territories and Regional Services and with Environment Australia. For the public record, can you explain what the environmental issues are and what the environmental management plan entails?

Mr Brown—In the first instance, the Department of the Environment and Heritage have some jurisdiction over Willis Island. We submitted a referral under the EPBC Act to Environment and Heritage and they assessed that referral and deemed that the action was not controlled, but, as part of their approval, they requested that an environmental management plan be prepared, which has been prepared and submitted to EA for their approval.

Mr BRENDAN O'CONNOR—I would like to expand on that. I noticed that in paragraph 41 of your submission, a number of sentences down, you write:

As a result of this consultation

—and that of course is with the Department of the Environment and Heritage—

protection of the resident green turtle population, island bird hatcheries and the surrounding coral reefs are to be incorporated in the building contractor's Environmental Management Plan—

and you have made reference to the plan. How would you monitor the fulfilment of those objectives and obligations by a building contractor, particularly in relation to the local wildlife?

Mr Brown—In the tender documents, the contractor also has to prepare an EMP for the site, which incorporates the overall environmental management plan. That is quite specific on what things are required to protect the various flora and fauna. In relation to the green turtles, I think the basic principle is we do not have any bright lights at night—we have sodium vapour lamps so that the turtles are not attracted to the bright lights—and in the morning the contractor, who has to train a person through Parks and Wildlife, will walk around the island and redirect any hatchlings back towards the water. That is set out in the EMP. We are happy to give you a copy of that EMP.

CHAIR—Do members want to receive a copy of the environmental report?

Senator PARRY—Yes.

Mr WAKELIN—Forgive me if this has been asked before—I just did not hear it. What is the Queensland RFC?

Dr Barrell—It is the Queensland Regional Forecasting Centre.

Mr WAKELIN—I am just looking at the page of comparative costings and comparative options that you were generous enough to offer. Are your organisation's forecasts specific to its region?

Dr Barrell—The Queensland Regional Forecasting Centre provides forecasts for the whole of Queensland. They particularly work with groups like the emergency services. They work closely with them to disseminate information. There are management plans for things like tropical cyclones that they work with with the community. Their forecasting is particularly for the Queensland region, for shipping and for areas around Queensland.

Mr WAKELIN—It is not a specific state purpose; it is part of your national purpose?

Dr Barrell—Yes. The bureau has an office in each state.

Mr WAKELIN—Thank you very much.

Senator TROETH—How will the construction team be accommodated on the island while the project is under construction?

Mr Brown—The contractor has to build a temporary camp for them.

Senator TROETH—Of tents?

Mr Brown—No, there will be buildings.

Senator PARRY—I have a supplementary question on the asbestos issue. Has the tender provided for the deconstruction of the packaging? During the deconstruction, does it need to be screened, tinted or covered? That would be quite an expensive exercise.

Mr Brown—They have got to remove it in the way described under the workplace safety and health act. The roof sheets we use can be removed in a whole sheet—unscrewed, taken off, laid and stacked. If there is evidence of it breaking up, I think the normal way to deal with it is to hose it down, keep it wet and then remove it. Certainly, the act is quite specific about the way that the material should be removed. It is not to be broken up. It is to be taken in pieces as large as possible, stacked to a certain size and then packed and sealed. Then you do the next one.

Senator PARRY—Are you satisfied that the tender documentation and the response would cover those costs in a worst-case scenario?

Mr Brown—Yes.

CHAIR—I was looking at the project costs again, for the public record. Without disclosing details of costings, for the public record you might mention why the original submission states \$7 million while the figures we have today show \$7.691 million.

Mr Whitehead—The costs that we put in the original submission did not include the fees that had been paid, which are in the region of—

CHAIR—So the additional amount is, again, professional fees?

Mr Whitehead—Yes.

CHAIR—I just think it is important to have that clarified on the public record, without going into the confidential costings.

Mr Whitehead—We were looking at an out-turn cost which was exclusive of fees. It is basically the whole construction, not including land costs or fees.

CHAIR—Again for the public record, there is a figure in here of \$1.662 million required for re-equipment. That does not come into the project cost for public works purposes; that is movable equipment—

Mr Whitehead—That is radars and other meteorological equipment.

CHAIR—I just wanted that clarified as well so that everybody understands. There are no further questions, so, understanding the difficulties that you are confronting with weather conditions, the committee and the secretariat will complete the report as soon as possible. We thank you for facilitating today's hearing and for the information you have provided to us. I thank the secretariat for getting this on the agenda so fast, given the workload.

Resolved (on motion by **Mrs Moylan**, seconded by **Mr O'Connor**):

That, pursuant to the power conferred by section 2(2) of the Parliamentary Papers Act 1908, this committee authorises publication of the evidence given before it and submissions presented at public hearing this day.

Committee adjourned at 10.27 am