**MURRAY RIVER WORKS BILL 1905**

**House of Assembly, 17 November 1905, pages 784-94**

Second reading

**The COMMISSIONER of PUBLIC WORKS** said he wished he was better fitted for the task before him, because the question was one of the most important that had been before Parliament for a number of years. Without underestimating in any way the importance of the measure dealt with during the present and previous sessions he was sure he would have the concurrence of every hon. member when he said that they had seldom had a question of such vital import or one of so complex or difficult a character as the Bill before them now. No subject required more serious, painstaking, and tactful consideration than that of the rights and obligations of the riparian States in respect to the River Murray waters. It was in no way a party question; it was a most important national question, on which members could, he was sure, work together for the safeguarding and furtherance of the rights—the present and the future rights and interests—of South Australia. The question of the rightful ownership of the waters of the River Murray had passed through many phases. First, they saw New South Wales, under Sir Henry Parkes, claiming the whole of the waters of the Murray, the Darling, and the Murrumbidgee, because of the inclusion of the Upper Murray within the boundaries of the State of New South Wales. Then New South Wales allowed her hold to somewhat relax, and there was a conference between representatives of New South Wales and Victoria, at which it was resolved to equally divide the waters into two shares, one of which should be taken by each of those States, South Australia being entirely ignored. After many years, better counsels prevailed and as the outcome of the Corowa Conference, the Interstate Royal Commission on the River Murray was appointed in 1902, jointly and severally by the Governors of New South Wales, Victoria, and South Australia, with a Commissioner from each State. Great expectations were raised, and the report of the commission was eagerly looked for. When the report did appear it was found to be of a very exhaustive character, with its 60 pages of report, 359 pages of evidence, and its elaborate plans, but notwithstanding all that it was vastly disappointing; for South Australia’s representative (Mr. F. N. Burchell) found it necessary to enter a strong dissent to the finding of the other Commissioners. The report in one aspect or another was not considered acceptable to any of the States, and was not adopted by either. Its basis was a proposed allotment of the waters of the River Murray and principal tributaries in certain proportionate quantities for the use of each State. As pointed out by Mr. Burchell in his memorandum of dissent, navigation was sacrificed for irrigation; and the effect of the division proposed would have been, at times of very low river, to reduce the flow of the Murray to less than the discharge of the inlet drains to their reservoirs. The report nevertheless was a very valuable document. Considerable attention was given to the question of locking the rivers for navigation, and an approximate estimate was given of the cost, as follows:—The Murray—Blanchetown to the State boundary of South Australia, six locks, £600,000; South Australian boundary to Echuca, 20 locks, £730.000—£1,330,000. The Darling—Wentworth to Walgett, 24 locks, £920,000. The Murrumbidgee—Junction of Murray to Hay, nine locks, £321,750. Total, £2,571,750. The sixth recommendation of the commission stated:—“While admitting the benefit of a permanently navigable river, we are of opinion that the present traffic is not sufficient to warrant a complete system of locking. We think, however, that a beginning might be made with the Murray, from Blanchetown to the junction of the Darling at Wentworth, at an early date. For this eight locks would be required, viz.:—Six between the South Australian border and Blanchetown, and two between the South Australian border and Wentworth. The estimate, according to the evidence of Mr. Moncrieff, of South Australia, and of Mr. Wade, of New South Wales, is £760,000. We recommend that the Federal Government be invited to consider the desirableness of carrying out this first instalment of locking the river.” On careful reconsideration of the estimated cost of the 59 weirs and locks, Mr. Davis, of New South Wales, and Mr. Stuart Murray, of Victoria, in conference with Mr. Labatt, had come to the conclusion that the royal commission’s estimate was much under the mark, and the amount was now estimated at, say, £3,286,000, made up as follows: — The Murray — To Echuca, £1,876,000. The Murrumbidgee—To Hay, £324,000. The Darling—To Walgett, £936,000. Snagging, levels, &c., whole system, £150,000. The lengths of the navigable portion of the River Murray and the navigable portion of the tributaries were: —The Murray—Sea mouth to Albury, 1,367 miles. The Darling—Wentworth to Walgett, 1,181 miles. The Murrumbidgee—Junction to Gundagai, 666 miles. The details were—The Murray—Sea mouth to Blanchetown, 170 miles; do.to Overland Corner, 262 miles; to Renmark, 351 miles; to boundary, 401 miles; to Wentworth, 516 miles; to Echuca, 1,065 miles; to Albury, 1,367 miles. The Darling—Wentworth to Bourke, 881 miles; to Walgett, 1,181 miles. The Murrumbidgee—Sea mouth to junction of Murrumbidgee, 770 miles; junction to Hay, 240 miles; to Narrandera, 460 miles; to Gundagai, 666 miles. In the evidence given before the commission there would be found some particulars given by Mr. A. B. Moncrieff (page 193 of evidence), and by Mr. J. W. Jones (page 211), with reference to some such work as was contemplated by the Bill to combine the purposes of a weir and lock for navigation, and at the same time act as a storage reservoir. The next joint interstate action with regard to the Murray was the Premiers’ Conference in Sydney, held on April 15, 1903, when an agreement was come to, subject to ratification by Parliament, wherein some ratifications of the royal commission’s figures were agreed upon to South Australia’s advantage; but again the basis of the proposal was a division or allotment of the available waters between the three States, and even that, on the terms contemplated, was not sufficiently acceptable to South Australia, or even to the other States, to gain popular favour or legislative sanction. It was quite apparent that neither the recommendations of the royal commission nor the proposals of the Premiers’ Sydney Conference could be agreed to by South Australia without a great sacrifice of her interests in the River Murray waters. The problem of the River Murray waters in its interstate aspect was admittedly a difficult one. South Australia, from her pride of geographical position, very justly and very positively put forward her claim for the unimpaired maintenance of navigation. That was the point they had to keep in view. Nature provided that grand water highway for cheap transport to and from the markets of the world, and it would be indeed criminal for them to abate one jot of their contention—that the navigation of the Murray and its navigable tributaries must not be prejudicially affected by the diversion of the water for any other purpose. It was not a selfish State question wherein they should derive all the advantage. Very great advantages would be reaped by the settlers on the lands adjacent to the River Murray, the Darling, and the Murrumbidgee in the three States. South Australia was not alone in realising that, for there was a very pronounced feeling on the upper rivers in support of the position taken up by South Australia. At Balranald, on the Murrumbidgee, there was a strong league working in the interests of navigation, and strong testimony had been given in its favour and the maintenance of an outlet for their produce through South Australia. Mr. Humphrey Davy, of the Murrumbidgee, in New South Wales, writing on the subject said:—“The league with which I am associated, which is the second promoted with the same purpose— first at Hay and now at Balranald, the Lower Murrumbidgee River Locking League—has at heart just what you in South Australia are contending for—a great scheme in which inland navigation will not only he preserved, but will actually be made permanent.” Mr. Davy went on to say; of course there is the selfish personal or party element which in the past I have, and in the future will more strenuously than ever fight to subdue, in favour of the great public or National interests involved. I have been for 40 years practically interested in production, and carefully watching this great question develop. There is now no difficulty in adopting a broad, national view as to what course, in the interest of Australia and its great future, it is best to follow.” Mr. P. M. Murray, Mayor of Balranald, in evidence before the commission said—“We are unanimously in favour of locks and weirs.” Mr. W. A. Macpherson, station manager on the Murrumbidgee, gave evidence strongly in favour of locking the rivers. He said—“I wish to protest against any isolated scheme of diverting water from the Murrumbidgee that may be in operation at the present time, or which may be proposed in future, until some broad scheme of water conservation embracing the locking of all the rivers, is carried out.” That witness said in answer to another question—“This brings home the fact that the natural and cheapest route to the seaboard will be by river to Victor Harbour.” And in reply to the question— “Supposing the river were locked, where would you send your wool which you now say goes to Melbourne via Echuca? he said—“South Australia would be the cheapest way.” (Mr. Ritchie—“We have had wool down to Goolwa this year.”) That was on account of the condition of the river, and when the scheme was completed, the trade would increase every year. Mr. H. L. Harben, storekeeper, of Balranald, gave evidence in favour of locking —“I have been 22 years on the rivers, and consider that the locking of the rivers would greatly benefit those residing in their vicinity who have to depend on water carriage, either to procure their supplies or as a means of getting their produce to market. With the locking of the rivers and permanent navigation secured to the mouth of the Murray or Goolwa, a huge saving in cost of transit must result to all concerned.” Many other witnesses up river in New South Wales and Victoria gave similar evidence in favour of a comprehensive scheme of locking. The Hon. Mr. J. H. Carruthers (Premier of New South Wales), in a minute dated November 5, 1904, contained in a New South Wales Parliamentary paper giving a memorandum by Mr. Davis (Under Secretary for Public Works) on disposal of the Murray River waters, said:—“It appears to me that, if South Australia wishes to have a permanently navigable river, she must be prepared to pay a large share of the cost of those works which will provide for the full supply of all reasonable demands for irrigation purposes, and still leave ample for navigation. It seems to be certain that, sooner or later, the quantity of water necessary to meet the reasonable requirements of a growing population will be so great as to leave insufficient for navigation, unless special works are carried out, designed to meet the want of both navigation and irrigation; therefore any agreement should provide for a sharing of the cost of such works by the States in proportion to the benefits to be derived." They certainly did want a permanently navigable river, and there could be no better reply to the New South, Wales Premier’s contention than the Bill now submitted, which complied so exactly with what he asked of them, to bear their part of the cost of carrying out works designed to meet the wants of both navigation and irrigation. He informed the House recently of a telegram and a letter he forwarded to the Premier of New South Wales, protesting against the “Barren Jack” scheme being proceeded with pending the further consideration of interstate interests in the Murray waters at the forthcoming Premiers’ Conference. Mr. Carruthers’s reply, dated November 6, 1905, was as follows:—“Sir—I have the honour to acknowledge the receipt of your telegram of 3rd inst., protesting against this Government proceeding with the ‘Barren Jack’ scheme and other schemes for the diversion of the waters of interstate rivers, pending the holding of the proposed conference of Premiers. I have the honour to be, Sir, your obedient ser­vant, J. H. Carruthers." And this was followed by a fuller reply, dated November 7, 1905:—“Sir—I beg to acknowledge receipt of your letter of the 4th instant in regard to the proposed construction of a dam across the Murrumbidgee River at Barren Jack, and to say that I have noted the comments therein contained. I am sure that the sister State of South Australia, suffering at periods, unfortunately not infrequent, from the effects of drought, must appreciate the fact that there is a large proportion of the area of this State which cannot be safely occupied by any form of close settlement for agricultural or pastoral purposes without adequate provision for a water supply. It surely can never be contended that the water is to run through this large region, merely in a river channel unutilized and unconserved, and that the territory in question is consequently to remain undeveloped. This State contends that it is simply asserting its reasonable right to the use of the water for the greatest purpose for which it is provided by Nature; and it intends to maintain its right with all its constitutional powers. At the same time, I appreciate the anxiety of South Australia in respect of what it considers to be of great importance to its welfare, viz., the navigation of the Lower Murray, &c., and I bear in mind the very friendly and reasonable discussion which took place at Hobart last February between the Premier of South Australia and his colleagues and the representatives of New South Wales and Victoria on this question. I venture to think that, if the matter could, be carried forward from the stage reached then and there, there would ultimately eventuate a distinct understanding, which would remove all grounds of complaint or protest. I have the honour to be, sir, your obedient servant (signed) J. H. Carruthers.” They appreciated that letter, but members would come to the same conclusion that he did that Mr. Carruthers had safeguarded all that he had been con­tending for in the past, and there was very little progress in the direction of approach­ing South Australia. Mr. Carruthers said, in effect that they were a fine lot of fellows in South Australia, and the letter was a reasonable one. (Mr. McDonald—“But they are going on with their works.”) Yes. The crux of the matter was contained in the sentence:—“It surely can never be contended that the water is to run through this large region, merely in a river channel, unutilized and unconserved, and that the territory in question is consequently to remain undeveloped.” They said that they would go in for locks and the conservation of water in reservoirs, so that there was no need for the water to run away. By authorizing the works contained in the Bill they showed that they were prepared to do their share. The difficult and disputed interstate questions of the quantity of water required for navigation and the right of South Australia for a flow sufficient for that purpose, when such would be naturally available, would only receive a satisfactory solution by a system of locking, which would certainly also be found to be to the best interests of New South Wales and Victoria, because, with such a scheme carried out, instead of a flow for navigation of 450,000 cubic ft. per minute being required, as stated in Mr. Burchell’s dissent to the interstate commission’s report, or even a flow of 337,000 cubic ft. per minute mentioned by the other Commissioners as being found sufficient for navigation, there would only be required for navigation sufficient water to keep the locking system effective, and in addition a ' sufficient surplus for South Australia’s reasonable requirements for irrigation and a sufficient quantity to keep the lakes sweet. Even the interstate royal commission’s report stated that practically South Australia’s requirements would be met after locking was completed by a supply estimated at about half of even the small quantity which the commission proposed as South Australia's share in the present natural, state of the river. Even, taking the commission’s figures, locking would render available for diversion in New South Wales and Victoria an immensely increased quantity of water. It was instructive and significant to note the values set upon the Murray and its tributary waters by the Premier of New South Wales and his officers and members of the New South Wales Parliament. The Premier of New South Wales in his speech made the following statements:—“We had got to face the financial problem. An expenditure of at least ten millions of money would be required before we could construct water conservation works dealing with the Murrumbidgee valley, the Lachlan basin, and the Namoi and Gwydir basins, and provide the channels which would carry the water on the surface of the soil. . . . The loss during the last five years in stock and in other respects attributable to the drought, the results of which have been largely avoided by a partial scheme of water conservation, ranged from between eight to 10 millions sterling. ... If a loss of eight or 10 million pounds from drought could be avoided by an expenditure of 10 millions sterling, surely we ought not to have to go to British or foreign moneylenders to carry out work with which they were not concerned.” Mr. J. Gormly, M.L.C., moved a resolution to the effect that irrigation would be very beneficial to the pastoral areas. He said under a system of irrigation New South Wales, he believed, would carry a hundred million sheep. Mr. L. A. B. Wade, Principal Engineer for Water Supply for New South Wales, speaking of the lands in the Murrumbidgee valley, said:—“There is an area of about 750,000 acres in one block suitable for irrigation purposes, 520,000 acres of which are of first quality; while on the south side there are in the block 912,000 acres suitable for irrigation, of which 110,000 acres are of first quality.” Respecting the Murray, Mr. Wade stated: —“A classification of the lands adjacent to the Murray River in this State shows that there is an area of about 900,000 acres suitable for irrigation purposes in one block between the Murray and the Billabong, and between the towns of Savernake and Deniliquin. For the irrigation of this area it is proposed to divert a supply of 900 cubic feet per second by means of a canal taking off from the river at Bungowannah, below Albury.” Mr. S. McCaughey, M.L.C., at the luncheon after the Irrigation Conference in Sydney, stated that he had it on the authority of one of the officers of the Works Department that the value of the water running to waste every year was £2,000,000. He asked them to consider what that amount capitalized meant to the State. Mr. L. A. B. Wade (Principal Engineer for Water and Sewerage), of Sydney; question 6231, page 281 of report of interstate royal commission, stated:—“On the one hand, a claim is put forward for navigation by means of the natural flow of the stream down a channel that is wider than the Suez Canal, and which requires a flow of 340,000 cubic feet per minute to maintain navigation. This flow is sufficient for the irrigation of 1,000,000 acres under intense cultivation, the direct profits from which should not equal less than. £10,000,000 per annum, or 50 per cent, more than would pay interest on the whole of the national debt of Australia.” If the state of things referred to by Mr. Wade came about it would be of great consequence to South Australia to maintain the navigability the river, because the great bulk of the trade created by the irrigation colonies contemplated by New South Wales would naturally flow down this way, and would be the means of bringing to South Australia a revenue that could be set against the expenditure involved in the scheme he was now submitting to the House. There was equally conclusive testimony from Victoria as to the value put upon the Murray waters by the Government and people of that State. A new Water Act Consolidation and Amendment Bill had been introduced to the Victorian Parliament and practically passed, which contemplated putting water conservation and irrigation in Victoria on a basis which must lead to great development and extension of existing works, and probably the initiation of new works of considerable magnitude. The Hon. G. Swinburne (Minister of Water Supply), in introducing the Bill in the Legislative Assembly, said that “the area between the Goulburn and the Loddon constitutes an area of 1,407,000 acres, and that in this area at the present time there are nine trusts. Rodney, the largest, with 275,000 acres, and Twelve Mile, the smallest, with 9,900 acres. In that area there will be about 1,230,00 acres which will be commanded by the channels. The largest area which has been irrigated in any one year, so far, is only 120,000 acres for the whole State. He pointed that out to show the tremendous amount of work in the way of diversion that was going on in Victoria, while South Australia was doing nothing. Mr. Swinburne was a cute and very excellent Minister, who was an enthusiast on this subject, and he did not blame him for the activity he showed on behalf of his own State. That Minister went on to say that the whole incidence of the new measure was to alter the existing conditions and to create in the water a great national asset, not only an asset of to-day, but “a growing asset for the future.” “The whole idea of the changes proposed,” he said, “has been that the Government shall receive a benefit proportionate to the increase of the value of the land which the Water gives to it. In many parts of the area to which it is proposed to take the water it will be found that the great proportion of the increase in the value of the land will have been given to it by the water.” Mr. Swinburne went on further to say “that to carry the channel from the Waranga basin to the Loddon and at the same time construct all the necessary distributing channels in connection with the area mentioned of 1,407,000 acres means an outlay of £1,380,000, and that it proposed to spend the money during the next five or six years. The irrigation charge proposed is only about 4/ per acre, watered to a depth of 12 in.—about a third of the Renmark charge for irrigation water.” All those references went to show that it was to the interest of New South Wales and Victoria to meet them more than halfway in reference to the locking project. If, as Mr. Carruthers said, “South Australia should pay a large share of the cost of locking,” surely the facts as taken from the mouths of the Premier of New South Wales and his people, and from the Minister of Water Supply of Victoria proved conclusively that New South Wales and Victoria should be only too willing to pay a very large share of such cost of a complete and comprehensive system of weirs and locks extending throughout the whole navigable length of these important rivers, by the construction of which the quantity of water rendered available for irrigation in the upper riparian States would be so greatly increased. He hoped South Australia would be able to show, by constructing the works contemplated in the present Bill, that it was doing its share, and that if New South Wales or Victoria refused to go in for locking they would intensify the injury to this State. He mentioned these statements to show the reasonableness of the presumption that the upper States would agree to accept a large share of the responsibility of carrying through within a reasonable time the entire scheme of locking, which, was absolutely essential to the permanent navigation of these rivers. The favourable reception of Mr. Jenkins’ suggestions at the Hobart Conference was another strong ground for the hope and belief that the upper States were prepared to support a scheme for locking. It was not a question of merely locking the River Murray within the boundaries of South Australia. Nothing less than the scheme estimated by the Royal Murray Waters Commission to require 59 locks would satisfy the necessities of navigation or satisfy South Australia. It was to show their faith in the locking project and to show further their willingness to back up their faith, by putting; their hands in their own State pocket, that the Government had come to Parliament with this Bill for the construction of the first lock. It must be clearly understood that one such lock to stand alone on the Murray would be of very little use. It would be absolutely necessary to go on to a comparatively early completion of the whole scheme, involving a probable expenditure of over three millions sterling. The last meeting of State Premiers to discuss the Murray waters question was at Hobart, in February, 1905. No definite agreement was arrived at, but Mr. Swinburne, Minister of Water Supply, Victoria, submitted an elaborate memorandum of suggestions from Victoria, which would be found in Parliamentary Paper No. 59, of 1905, and Mr. Jenkins submitted a series of resolutions contemplating the construction of locks, as follows:—“1. That the ultimate requirements of navigation and irrigation will necessitate the construction of a complete system of locks over the whole of that portion of the river system now customarily used for navigation. 2. That as the diversion by New South Wales and Victoria increases in extent, such system of locks be gradually installed, so as to at all times maintain the full requirements of navigation. 3. That the cost of all works for the purpose of navigation be contributed by the three States in equal parts. 4. That when the above principles are approved, the services should be obtained of the best engineer in the world, competent to deal with both the navigation and irrigation sides of the question, to report fully on the extent and character of the works necessary, and prepare full estimates; the expenses to be borne equally by the States interested. 5. That a governing body be constituted to control the use and division of the whole of the waters of the river system, consisting of three engineers, one to be appointed by each State. And before any works of diversion are commenced such body shall investigate the effect of such diversion on the flow of the river, and if in their opinion the interests of navigation would be adversely affected, they shall initiate such portion of the complete system as will conserve the full navigation requirements. 6. That the first work to be commenced shall be that for the storage a Lake Victoria.” He wanted to say that while he agreed with the general proposals of the late Premier (Mr. Jenkins) he must hold himself free to act independently in regard to a few things if he was to take part in any conference. He would not like to be pledged by all the resolutions that Mr. Jenkins had agreed to, and wished to be quite frank on the point. At the suggestion of Mr. Jenkins it was decided that a definite settlement of this question be deferred to permit of the South Australian Government preparing a full report on the basis of Mr. Jenkins’s resolutions, and presenting to the next Conference of Premiers of the States interested a detailed statement of the works considered necessary to give effect to such resolutions. There the question now stood. The Government were, however, preparing their suggestions with regard to locking for the next meeting of Premiers, which he hoped would be fixed for an early date. It would be observed that Mr. Jenkins explained at the Hobart Conference that he did not think it advisable to try and build up any agreement upon the basis of water measurement, as recommended by the previous Premiers’ Conference, but preferred dealing with the question from a national standpoint, and therefore providing for a complete scheme of conservation and locking. The one principle to which they must still adhere—and it was also the contention of Mr. Jenkins—was a sufficiency of water for navigation. There had seldom been an important national question of home affairs taken up by our people with so much earnestness and energy as the members of the River Murray League and the press had given to the great waters question. They were certainly greatly indebted to the professional, mercantile, and literary men and others who had given up their valuable time to an investigation of the subject and in formulating and fostering a policy of vigorous action. The result of the league’s work had been concisely formulated in three resolutions:—1. “That an early agreement between the States concerned as to the best way of dealing with the question of the waters of the River Murray and its tributaries is of national importance.” 2. “That the only just and practical solution in the interests of Australia is by the construction of a comprehensive system of locks, weirs, and storage reservoirs—to ensure permanent navigation; to conserve the largest possible quantity of water for irrigation.” 3. “That the earliest steps be taken to authorize the construction of the improvement works at Lake Victoria, as recommended by the Interstate Royal Commission of 1902.” Time after time large influential deputations from the league had pressed upon the attention of previous Governments the necessity for alertness and activity to protect and conserve their interests in the Murray waters, and as recently as a few days ago the members of the league waited upon him to urge that immediate and practical effect be given to their remonstrances and representations. It was strongly urged that this session of Parliament should not be allowed to close without consideration of a public works policy contemplating immediate action by the State in the commencement of the works for a great interstate system of navigation locks and storages for irrigation, and it was represented that the importance of the subject was second to none that would come before the Legislature. They were indebted to the members of the Murray River League for having urged the importance of storage reservoirs for the purpose of continuous traffic. He did not contend that previous Governments had been neglectful, because they were faced with the position that if work had been commenced previously blunders would have been made. Past delays would enable them to do the right thing. The Bill for the Murray Works Act was evidence of the Government’s sincerity and earnestness on the question, and proof that his reply to the league’s deputation was not a diplomatic one of idle words. They wanted to do something that would be a practical demonstration to their interstate neighbours of the importance they attached to the question. They meant to do it, and at once if Parliament would back them up. He was greatly pleased to know that a branch of the River Murray League had been formed at Renmark where there were a large number of men fully alive to the importance of the question, and from whom they would, no doubt, have valuable assistance. The secretary (Mr. A. J. Hollingdrake) had made important suggestions in a communication but time would not permit of his referring to them. Reference was made in it to water as against railway carriage. Economy in production, concerning which producers must ever be alert, remained a serious consideration until the market was reached. He knew something of the canal system in the United Kingdom. Canals went down in front of the newer and supposed superior railway communication, but on a question of charges the canal system was unrivalled. The canal trusts were being revived. Mr. Hollingdrake said:—“At a time when in the United Kingdom the revival of the old inland waterways, which the great railway companies were permitted too hastily to absorb and destroy, was being strenuously agitated, it behoved the producer not to beg the question of transport in favour of railways, and not to consent to have it begged for him. When it is affirmed on good authority that the canals of the United Kingdom could have carried the goods traffic with a saving of £40,000,000 per annum, both producer and consumer are offered food for earnest reflection.” They were not content with the statement that because the Murrumbidgee, the Darling, the Goulburn, and other branches were only tributaries of the Murray, what Mr. Irvine said was correct that both Victoria and New South Wales had indisputable right to all tributary river water. They disputed such an extraordinary and, to them, absurd contention, and they meant to take every constitutional means to dispute it and knock it out. There must be no uncertain sound or faintheartedness, and he knew he would have the Parliament and the people of South Australia at his back to help him in doing so. There was, however, a remedy without going to legal war, and that was a complete system of locking. That could not be too often repeated or too emphatically impressed upon their aggressive neighbours. It was not sufficient for them to lock their part of the river. It would be locking in more senses than one—to somewhat mixed metaphor—locking the stable door after the steed had been stolen. They must take vigorous action and take it before it was too late. They had been told that it was the Commonwealth's duty to protect navigation. They could not and would not wait for the Federal Government’s action, although, of course, they would like and earnestly invite the aid of the Federal Government and Parliament to help them to maintain unimpaired what the Commonwealth Act clearly contemplated should be maintained unimpaired—the navigation of the whole of the noble river, the Murray—with its tributary streams—the Darling and the Murrumbidgee. Every member of the House acknowledged the help Mr. Glynn was giving in the Commonwealth Parliament. It would be remembered that in his place in Parliament on June 4,1904, when speaking on the motion of Mr. McColl, he delivered a masterly speech on the river question, and did them yeoman service, and not only them, but the other riparian States also. He had previously tabled a motion in the following terms:—“That in the opinion of this House the Federal Government should, subject to the Constitution Act, carry out a scheme for locking, impounding, or otherwise conserving, for the purposes of interstate commerce and irrigation, the waters of the Rivers Murray and Darling.” The discussion was most profitable, but nothing definite was done. Hon. members, doubtless, desired that he should say something as to the legal position of the State in relation to works designed to maintain and improve the navigability of the Murray, which was an interstate waterway. Under a Federal system the maintenance and improvement of the navigation of interstate rivers—rivers which, either by themselves or in connection with other rivers formed a waterway for commerce between the States—was within the jurisdiction, and one might fairly say was the duty, of the Federal Parliament. The Parliament of the Commonwealth could at any time pass an Act under which its powers to legislate in respect of trade and commerce among the States, given by section 51 (i) of the Constitution, to prevent any obstructions by diversions, dams, weirs, or otherwise, of the navigation to interstate rivers. The only limitation on that power was contained in section 100 of the Federal Constitution, which said that “The Commonwealth shall not, by any law or regulation of trade or commerce, abridge the right of a State or of the residents therein to the reasonable use of the waters of rivers for conservation or irrigation.'’ That section referred to the power over trade and commerce between the States given by section 51 (i) and by section 98, which read—“The power of the Parliament to make laws with respect to trade and commerce extends to navigation and shipping, and to railways the property of any State.”’ To what extent it modified the Federal power over interstate waterways it was not necessary to consider in connection with the Bill, especially in view of the fact that the question was more one for the lawyers who were at present considering it. He might, however, say that he was advised that the power of the Commonwealth Parliament, when that body found time to consider a matter so important and so connected with the development of the vast country tapped by the great Australian river system, was ample to maintain the navigability of interstate waterways. It could be exercised so as to prevent obstructions and diversions that diminished the navigability of the rivers, and so long as the reasonable use of the waters for irrigation and conservation was not cut down, or, as the Constitution said, "abridged,” it could improve the navigability of the rivers. But, as hon, members knew, and probably regretted, the Federal Parliament had not yet interfered to maintain or improve navigation. Under the circumstances a State, he was advised, could construct works to maintain or improve the navigability of the river within its territorial limits. Of course, if these works, instead of maintaining obstructed navigation it would be risky to construct them, as a Federal Act might be passed that would necessitate their removal, and even in the absence of a Federal Act the construction of works that interfered with riparian rights in other States or impeded navigation could, he believed, be restrained. Those works were designed to maintain and improve navigation, not to obstruct it, as the preamble of the Bill and clause 4 declared, and hon. members would notice that clause 9. subclause 2. expressly said that power of the Crown to protect navigation against obstructions by other rights was preserved. It read—“Such right”—that was the right to the use and flow of water vested in the Crown by the section—“shall not be exercised except for the purposes of navigation in contravention of any right’' conferred on or existing in the persons mentioned in A and B at the present time. He thought for a layman, who feared to tread where the limbs of the law had not yet rushed in, he had at present said enough as to the interstate bearing of the Bill. It was necessary to set out clearly the difference between the character and object of the work they proposed, and those works for the diversion of the waters of the navigable rivers in the upper States of which they complained. The weir and lock they contemplated building were primarily to facilitate navigation; it was in fact a navigation lock, and would have the effect of providing a navigation depth of water over a long length of the river bed which had been the shallowest and most difficult to navigate at times of low river. That was their part of the river which had been affected most by the very small flow of water, which in recent years they had had chiefly, no doubt, through the extreme years of drought, but also to some extent through the diversions in the other States. With that lock of theirs completed that part of the river at Pyap Bend at least would be navigable for all time—unless of course those friendly neighbours of theirs took all the water. That the proposal was to raise the weir to 40 ft., and thus pond the water back a length of two ordinary locks, could surely raise no objection, because it would be filled at flood time of the river each year. That it would thus be in fact a storage as well as a lock should not be objected to, because the stored water would be available, and would be used to a large extent for facilitating navigation lower down at times of low year, when large steamers would be, under present condition, stopped running. That some of the stored water would be used for irrigation purposes could not either be a good ground for objection or adverse comment. Surely, they might claim to have and use some water—a reasonable quantity—for irrigation in their State. The water which had served its purpose in maintaining navigation on the upper reaches of the navigable rivers could, when it came over their border be held back by that large weir of theirs, and thus prevented running to waste in the sea, and thus be made available to some extent for their own irrigation requirements. To a small extent it would be possible to utilize the water by gravitation, and to a larger extent by pumping. As a matter of fact every weir and lock of the series of locks which they advocated throughout all the rivers could be made available in a like way to the same limited extent for irrigation purposes. Let it be clearly understood, however, that the navigable depth would have to be maintained in each lock pond, and the water could only be drawn off for diversion, unless either an extra depth was stored for the purpose by a high weir like the one they had designed, or unless there was a stream running into the locking pond at its upper reach sufficient to serve the diversion. channels. He had shown them that their work was designed to assist and facilitate navigation. Now let them look for a moment at the intention and effect of the works already constructed and contemplated in New South Wales and Victoria. In New South Wales up to a very recent date there had been no gravitation diversion schemes worth mentioning. But a beginning had been made, and they heard very frequently now of the intention to emulate Victoria, if not to go one better, and construct gigantic diversion works. Those were gravitation diversion works; no idea of or provision for navigation. No; the works were for as diametrically opposite a purpose as could possibly be imagined. In sporting phraseology—Irrigation first and navigation nowhere. First there came the Cudgell Creek scheme—one of pure gravitation diversion from the Murrumbidgee, against which Mr. Butler, when Premier, protested, and he (the speaker) had received a reply dated August 21 as follows:—“Sir—Referring to your letter of the 19th ultimo, in reply to my communication of the 19th June, 1905, I have the honour to intimate that the further protests contained therein relative to the Cudgell Creek cutting and the Murrumbidgee Northern Supply and Irrigation Bill, have been duly noted. I have the honour to be, Sir, your obedient servant J. H. Carruthers.” Then there came the Barren Jack scheme, which the Government of New South Wales had now made a government project. That scheme was a gigantic reservoir with a capacity of 33,000 million cubic ft., equal to about 206¼ thousand million gallons for the irrigation of about 358,000 acres of land on the northern side to be dealt with from the start and a large area on the southern side to dealt with afterwards, and the reservoir was to be filled by a diversion channel from the navigable river—the Murrumbidgee. It went without saying that such a scheme would prejudicially affect navigation in the present natural state of the river. With a complete system of locks, however, the position would be very dif­ferent. In the State of Victoria, as was well known, much had already been done in the way of diverting the river water for irrigation and other purposes. The very large Waranga Reservoir, to be filled from the Goulburn, with its storage capacity of 17,000 million cubic feet, equal to about 106,250 million gallons, had just been completed, and the water was turned in a few days ago. The Melbourne Argos of November 4, 1905, contained an account of that event, as follows:—“Waranga Basin Filling.—Murchison, Friday.—The water has been turned into the Waranga basin from the main channel from the Goulburn weir. It is proposed to run about 3,000,000,000 cubic feet into the reservoir this year, this being about one-third of the quantity that it will hold when full. It is estimated that it will take nearly a month to do the work should the channel prove equal to carrying the increased volume necessary, that is, 100,000 cubic feet per minute, apart from the supply required to be sent to the Rodney Trust from the main channel. The water first found its way into the basin on Tuesday last. Mr. Stuart Murray (Engineer-in-Chief) and Mr. Dethridge, of the Water Supply Department, have been supervising matters during the week, and it is expected that Mr. Swinburne himself will visit the works shortly.” Still further diversions of the Goulburn were contemplated. It was proposed to provide, when required, for further storages for the Goulburn waters, so as to use all the waters. At page 1429 of Mr. Swinburne’s speech on the Water Bill, 1904, he said:—“Mr. Stuart Murray, at my request, has prepared a report on this point, as I was very anxious to know the behaviour of the Goulburn and the Waranga basin under present conditions with regard to cultivation and irrigation in this large area. Mr. Murray comes to the conclusion that he will be able to find all the water that is required for this area, except in certain, years. It will be necessary therefore to construct other headworks upon the Goulburn, or to make a connection with the River Murray when that irrigation district is fully developed and the demand for water for the whole area has been fully met.” Further evidence of that was provided by the evidence of Mr. Stuart Murray, at page 168 (Q. 2921), of the first progress report of the Railway Standing Committee on Mallee Water Supply, where Mr. Stuart Murray said:—"The minimum discharge of the Goulburn for the whole year is not less than 50,000 million cubic feet. Bearing that fact in mind, and that we cannot, even with large schemes, utilize more than half, the question is—Can the rest be got? The whole of the 50,000 millions could be made if storage were provided in the valley of the Goulburn itself, which will certainly be in years to come.” When that was done, all the water, less compensation for riparian proprietors on the Goulburn, would be absorbed. In 1900 the discharge of the Goulburn was 50 per cent of the discharge of the Murray above the point of junction, and in 1901 it was about 70 per cent, of the Murray discharge. There were also in Victoria the diversion works direct from the Murray at Kow Swamp and at Cohuna, and diversions from the tributaries, the Ovens, the Campaspe, the Loddon, and the Broken River, to which he had already referred when speaking of the Hon. Mr. Swinburne’s proposals. In many of those places also further works were proposed. He need hardly give any facts or figures to impress upon the minds of hon. members the importance of the River Murray to South Australia. It would be well to remember, however, that the total area of riparian hundreds adjoining the Murray was two and a quarter million acres. Of that area 86,000 acres are freehold and one and a quarter million acres Crown lands. In the Renmark Irrigation Settlement 13,872 acres were freehold, and nearly the whole of it was under intense culture by irrigation. The importance of maintaining a satisfactory river for Renmark and their other settlements could not be over-estimated. It was of the utmost importance that the fruit which was grown so successfully should be marketed without any undue delay. If the river facilities had been better, they would have seen greater progress than had marked the growth of Renmark. The population of Renmark was quite 1,000, and in addition they had the Lyrup and some other village settlements, which were now in a prosperous and successful condition. Coming down the river, they had the towns of Morgan, Blanchetown, Mannum, Murray Bridge, Wellington, Milang, and Goolwa, all depending largely upon the River Murray. Large sums had been spent by the Government and the owners of the frontage swamp lands about Murray Bridge and Wellington on the reclamation of the swamps by the most expensive works. The success of their commendable enterprise depended upon the maintenance of the flow of the River Murray. The protection of the interests of the proprietors of land on the frontage of Lakes Alexandrina and Albert was of the utmost importance, and it was their duty and obligation to protect those interests. The navigation of the Murray had been ever recognised by South Australia. They had spent £135,000 in snagging and improving their portion of the river. They must not only look at the present development of settlements and irrigation in the Murray valley—they must look to the great possibilities of the future. The question of the competitive rates on the interstate railways had an important bearing on the Murray waters question. With all the special preferential rates obtained on the Victorian railways which tapped the River Murray, and the New South Wales railways which tapped the Murrumbidgee and the Darling, there could be no question whatever that the bulk of the trade of the Murray must come down the Murray to South Australia. The agreement which had been entered into with the Railways Commissioners had already had the effect of restoring to South Australia some of the wool traffic which they previously had, and the paragraph in the Railways Commissioner's report of this year which dealt with this question was worth quoting:—“Interstate Competitive and Preferential Rates.—I am glad to be able to report the completion of an agreement between the Railways Commissioners of New South Wales, Victoria, and South Australia, providing for an adjustment in these three States of the rates for all traffic to and from districts in respect of which competition has existed for many years past. This agreement, which became effective on March 1 last, is for the term of one year, subject thereafter to termination on three months’ notice from any of the parties; but it is confidently anticipated that it will constitute the basis of a permanent settlement of this long-standing difference. This agreement provides that all rates on traffic to or from the competitive districts shall be made public, and that no special rebates or concessions of any kind shall be given to secure such traffic. The adjustment of the rates under this agreement is such that, while augmenting the revenue of the State railways concerned, the same proportion of the traffic affected will, it is believed, be obtained for each State as was previously secured, thus conserving the commercial interests of the respective States. All preferential rates which could be considered as inconsistent with the provisions of the Commonwealth of Australia Constitution Act have been abolished.” They contemplated the erection of six weirs and locks in South Australia, and the first one—near Overland Comer—was proposed under the Bill It would be well for him to explain that the Government had not considered it expedient to take action under the Murray Barrage Act, 1904, by laying plans and specifications before Parliament for approval. It was thought desirable to proceed first with some works on the upper portions of the river, such as that now submitted. He had pleasure in acknowledging the valuable help which Capt. George Ritchie gave them on the Murray question, and the value of his speech in the House on August 31, 1904, which, now that it was in pamphlet form, was an exhaustive monograph of the Murray question. The reasons why the Government had not yet taken the legal action authorized by the House on Mr. Ritchie’s motion were well known to members. At an early date they would have the legal opinion of Mr. Glynn, Sir Josiah Symon, and! Mr. Isaacs, and for the present they deemed it desirable to stay their hands. The Bill was divided into six parts. As the interpretation clause (3) showed, the Act would be administered by the Commissioner of Public Works. He was (6) to cause plans to be prepared and call for tenders for works, the definition of which (3) was apparently wide enough to cover all works necessary for the objects of the Bill, which were expressed by clause 4, empowering the Governor to construct them. The works to be constructed were defined and identified by the plan, the definition of which (3) stated that it was to be deposited in the Surveyor-General’s office. The first works were those referred to in clauses 5 and 6, the plan of which was deposited. For those the authority was the Bill. For the construction of subsequent works a special Act (see definition 3) must be passed. For the purposes of the Lands Clauses Consolidation Act, section 2 of the Bill, as it authorized the construction of particular works (5 and 6), was a special Act. After the passing of the Act alterations in the plans, if not material, might be made (8) before tender. The idea was to, as far as possible, give the Commissioner of Public Works the control and responsibility for the construction and management of the works; though the Governor, as was customary, was given power to construct the works (4). The Commissioner’s powers were comprehensive, as might be seen from sections 6, 7, 8, 10, 11, and particularly 12. The powers vested in the Commissioner by section 13 were wide but necessary, and must be read with the Land Clauses Consolidation Act, which, by incorporation, provided the machinery for compulsory purchase of land where necessary. The only section of the Lands Clauses Consolidation Act omitted was section 114, which forced the promoters of works to sell surplus lands, a power which, in the case of the Crown, should be optional. By section 9 the right to the water impounded by the works was vested in the Crown, subject to certain existing rights, which were generally reserved and saved subsection 2. The principle was this—As it was essential to construction and control, and to avoid claims by riparian owners, the right to the use and flow of the conserved or dammed water was vested in the Crown for the purposes of the Act, the primary purpose, to which others were subordinate, being as declared by section 12, subsection 2, the maintenance of navigation. That mention of navigation at once prevented any interference by the Bill with the Federal jurisdiction, which when exercised by legislation, might, under conditions—not, however, likely to arise—supersede any works that did not provide for the maintenance of navigation, and declared the policy of this State, which was to maintain and improve navigation. The Act therefore did not limit the power of the Commissioner to control the impounded waters for the purposes of navigation, but did limit the power of control for other purposes, such as irrigation, by the condition that the rights given by, say, the Chaffey Brothers Irrigation Works Act and other Acts, to a reasonable use of the water as defined by the said Acts, and of ordinary riparian occupiers, were preserved but not extended. Under section 10 the regulations might, if necessary, prescribe charges for water for irrigation, &c., and by section 11 the Commissioner might charge tolls for navigation. To prevent any question being raised, river (3) was defined to include the bed and banks. Though the bed and banks of the Murray, as a navigable river, were in the Crown already, it was expedient to give the powers in respect of them mentioned or implied by the Bill for the purpose of the works. The plan that had been submitted for the whole scheme was accompanied by a report. He wished to lay the plan on the table, and call members’ attention to the report. The Engineer-in-Chief said:—“I have the honour to recommend that a comprehensive scheme be at once adopted, which will indicate clearly the quantity of water which South Australia claims for economical use from the River Murray and the works which may be necessary for ultimately dealing with such water upon a remunerative basis. In order to carry out this recommendation it will be necessary to consider in all their bearings the closely interwoven interests of navigation and irrigation, so as to ensure for the former that the river shall be maintained permanently at a suitable level for traffic, and for the latter that an adequate supply of water be provided to maintain as large a population on the river frontage lands as circumstances will reasonably admit. A speculative consideration of the question—‘To how much water is South Australia entitled?’ will lead only to irritation and interstate bickerings, without any satisfactory result; while a definite scheme showing what quantity of water this State can fairly claim for present and future economical and legitimate use may be looked upon as a business matter, which would, I believe, be capable of adjustment without any ill-feeling. Details may have to be modified as further information is obtained, and as the conflicting claims of each State are better understood; but no room should be left for doubt as to South Australia’s capabilities or intentions, so that in the future we may not be judged as having been grasping beyond our possibilities or slack in defending the great heritage to which our geographical position has entitled us. I beg most respectfully to submit that action regarding isolated works should not be taken till a comprehensive scheme has been generally approved, and, in accordance with your instructions, I now, for the first time, have the opportunity of submitting for consideration what I conceive to be the outlines of such a scheme, and, before doing so, beg leave to clear up certain misunderstandings which seem to weigh with some who have considered the question. As to South Australia being entitled to the full use of the undiminished flow of the river, I beg unhesitatingly to state that even supposing this view to be correct, South Australia cannot by any possibility now or ever make any reasonable use of such a supply. There are no basins in which to store the flood waters as a whole, and the topography of the adjacent lands would not admit of their use if so stored. As to keeping the great lakes and lower reaches of the river fresh by simply shutting out the sea and then demanding fresh water to the extent of many thousand millions of cubic feet merely to supply the evaporation from their surfaces, this would involve what appears to me to be a shameful waste when the economical result is considered. A few sheep or cattle may be watered and a very limited area of frontage flats may be benefited, but to secure these results sufficient water to irrigate 380,000 acres of land would be passed uselessly into the atmosphere. With regard to the current idea that merely locking the river will provide water for irrigation, it must be pointed out that this is a mistake. Weirs, with their necessary locks, if built only to the height necessary for navigation, will not be impounding basins for water for other purposes. If irrigation is to be undertaken, the weirs must be raised sufficiently to produce storage reservoirs, or independent storages must be constructed elsewhere. The comprehensive scheme which I now submit for consideration includes:—1. Locking the river from deep water at Blanchetown to the boundary, involving the constructing of six weirs. 2. The reclamation of all lands adjoining the river which can be irrigated by gravitation or by very low lifts, including the areas now submerged in Lakes Alexandrina and Albert, alone amounting to about 150,000 acres.” The Engineer-in-Chief had submitted that in his comprehensive scheme, but the Government did not pledge themselves to that portion which he considered as necessary for the reclamation of Lake Alexandrina and Lake Albert. They would keep it in view, but at the present time they did not see their way to recommend such a course to the House. That would not interfere with the general plan of providing lakes and weirs. The report continued:—"3 The construction of a storage or storages of a sufficient capacity to ensure a permanent supply for navigation and the irrigation of the reclaimed lands and such other areas as can be reached by a reasonable lift—say, 400,000 acres in all. 4. The construction of such defences against the entrance of sea water to the trained river as may be necessary to ensure the successful working of the irrigation areas near the mouth. 5. An arrangement with the other States for the necessary annual filling of the South Australian storage; and as this basin is not at the boundary it will be necessary to secure from them in addition a further supply, say, in Lake Victoria or other suitable storage basin, sufficient water to irrigate the Renmark settlement and keep the fifth and sixth locks in operation. 6. An arrangement with the other States for the construction and maintenance within their territory of such weirs as may from time to time be found necessary to ensure permanent navigation. The scheme thus outlined will, I think, cover the whole ground. While no reasonable demand is made, it would enable South Australia in a series of years to exploit her own country, and yet leave the other States in possession of water worth to them many millions of pounds annually—water, the most of which now flows uselessly to the sea. The probable capital out lay involved for the first four items, which properly belong to South Australia, would approach a million sterling, and the other States in exploiting the large quantity of water made available for them can very fairly, in consideration of its value, undertake the responsibility of items 5 and 6. The Hon. Commissioner will at once perceive that this scheme, providing an outlet for South Australian aspirations and energies will require vastly more consideration as to detail than can possibly be given thereto till the general outline has been accepted or modified as to principle. When this has been done any one item can be taken in hand and developed as time or opportunity demand, and whatever may be the outlay, nothing will be wasted, as would almost certainly be the case if the question is not first considered and decided on as a whole. A few of the details can even now be indicated—outline, designs for locks, and weirs have had preliminary consideration, the heights and other dimensions to admit of their use by river boats of 6 ft. draught have been sketched, but these have yet to be developed to suit local conditions and embody Australian requirements. One of the six weirs required for navigation, to be situated near Overland Comer, can probably be developed into a dam behind which 45,000 million cubic feet of water could be impounded— a quantity capable of maintaining: the navigation (with locking) from Renmark to the river mouth, and irrigating all the available land previously indicated. But the whole ultimate success of this work turns upon the question as to whether arrangements can be made with the other States for a permanent supply of the water necessary to fill annually such a storage basin, as there is no use in building a reservoir if there is not a reasonable prospect of its capacity being utilized, especially when the success of both navigation and irrigation below that point depends upon this being done. The policy of reclaiming the low-lying lands adjoining the river has already been inaugurated; the reclamation of Lake Albert has been favourably reported on; the reclamation of the greater portion of Lake Alexandrina. except what is necessary for the flow of the river and navigation channels, is herein suggested for consideration. The consequent training of the river will have a regulating effect on the off-flow in times of flood, and at most a single line of defence against sea water will probably be found sufficient. A possible irrigation scheme of considerable promise has been more than outlined at Lake Bonney, and to a limited extent the village settlements have shown other sites for similar minor undertakings. If this scheme received favourable consideration, the question will immediately arise, ‘In what order should the works be undertaken?’ There can be neither a permanent navigation nor irrigation without adequate storage of flood waters: therefore I respectfully suggest that weir No. 3, to act as a storage dam, have first consideration, while concurrently with the preparations of the details for such a work, negotiations with the other States for such a distribution of the water as will render it effective should be undertaken. The reclamation of the areas on which the stored water can be used for irrigation, commencing with Lake Albert, should at the same time be initiated. The reclamation of river flats should proceed continuously, and the navigation weirs should be constructed as may be found necessary. In the meantime a storage at Lake Victoria or other suitable site up river, for supplying Renmark should be arranged for—this being the vital consideration. South Australia’s claim for water from the River Murray which can be economically utilized will then stand at 67,000 million cubic feet per annum at the boundary, and the development of South Australia’s scheme for such economical utilization will involve an expenditure of approximately £1,000.000. The question whether such a scheme will ultimately pay remains for consideration. The reclamation of river flats has already proved reproductive, and there can be no question that a continuation of the policy already inaugurated will place a sufficient number of settlers on the land to pay full interest on the capital outlay necessary for such work in the future. If water can be stored at £4 10/ per million cubic ft., as could probably be done by a dam at Overland Corner, as compared with £28 elsewhere, and used by gravitation or with a, moderate lift, the undertaking will pay handsomely, as is abundantly proved by irrigation operations in the other States. If land can be reclaimed from the great lakes capable of irrigation by gravitation or by a low lift at about £1 per acre, such reclamation, in combination with an abnormally low cost of water storage, will present an undoubted prospect of fair remuneration in the future. That with such a development of the best systems of irrigation and cultivation on a large scale, water carriage of stores and produce will be a necessity, will, I think, be admitted by all thoughtful men, and it does appear to me that if the locking of the river within the boundaries of South Australia (independently of the large storage weir referred to) can be carried out for, say, £400,000, such a combination of irrigation and navigation will pay well: but details of probable expenditure and revenue are not at present available. I have not overlooked the position that a complete development of river navigation may at some distant date require the construction of a better outlet for vessels from the river to the sea, but whether this should take the form of a canal with outlet works or improvement of the river mouth may yet form the basis for a very interesting investigation; but the time is not yet. In the present condition of the information available, all figures given in this report must be looked upon as tentative, but approximately correct.—Alexander B. Moncrieff, Engineer-in-Chief.” (Mr. McDonald—“Are you prepared to support a proposal to give assistance to Mr. Moncrieff?”) The Government had every confidence in its officers. First of all they had Mr. Moncrieff, then Mr. Burchell and Mr. Labatt, and they were acting in unison with Mr. Jones (secretary to the Commissioner of Public Works). The present scheme was the result of their united effort. When he first took office the officers he mentioned were not working with easiness together. The result was that he brought them back to the old order of things. Mr. Labatt was taken away by a previous Premier and made responsible for certain works. He restored the old order of things, and formed the present committee of intelligence. Now they were all working harmoniously together. The big volume he held in his hand was the result of the commission, upon which Mr. Burchell sat. They had all that information, with the information that had been in the office for years, as to the difficulties of the river, and the more recent information as to engineering difficulties and river traffic, for which Mr. Labatt particularly was responsible. If the members wished the stamp of efficiency to be placed on the plan by some imported engineer the Government would have no objection. (Hon. W. B. Rounsevell—“Don’t you think you ought to get men experienced in river engineering?”) There were several men in Australia as good as any one they could import. The big damming and locking of rivers in Egypt and India could give a certain amount of assurance to an engineer. The experience in South Australia had been that the engineers who been paid so much to come here had said, after getting all the information from the department—“Yes; you have done a lot of good work; do this.” Take the Outer Harbour. That was practically the scheme of the department, and not of Sir John Coode. The department had the information. The officers realized this was a coming question, and, watching the interests of the State, they had kept in touch with all the big schemes of the world, and had kept themselves up to date. The present was the best scheme they could devise with their reading, knowledge, and experience. The Engineer-in-Chief had submitted the following report;—“In accordance with instructions, I have the honour to submit the following memorandum in reference to the storage weir known as No. 3 on the River Murray, as suggested in my original report of 30/10/05, and copy of plan which accompanied that report. I have no hesitation in stating that a weir to provide a storage of approximately 45,000 million cubic feet of water and a lock to admit of the passage of river boats can be constructed in the neighbourhood of Overland Corner, thus providing storage for water sufficient for navigation and irrigation on the river below Renmark. There is, however, only one cross section of the river available in the neighbourhood of Overland Corner. This shows in some respects a suitable site for the work required, but the foundations of the weir would require to be of abnormal proportions, and the exact location cannot therefore be finally determined until a much more exhaustive examination of the neighbourhood has been made, by which means I anticipate that a better site can be obtained than that shown by the original preliminary survey. An outline sketch only for a preliminary estimate has been made, and accompanies this report. The suggestion is to build a low earthen embankment across the flat and a weir of concrete about 32 ft. in height surmounted by movable shutters across the existing channel, this weir having sufficient sluices for the passage of water equal in quantity to that of the 1890 flood, and, further, providing an overfall, thus making a total outlet capable of taking charge of a flood equal to that of 1870; while navigation would under all conditions have to be dealt with by a lock based on the rock on the southern side of the river. If this work were carried out and the storage reservoir filled, the water would be thrown back to Renmark, and probably the reservoir at that place would be filled by gravitation, thus saving the first pumping lift at that irrigation settlement. There is no disguising the fact, however, that if the works contemplated in the other States do not absorb a very large proportion of the flood waters of the river, the construction of such a weir as that described at Overland Corner would materially raise the level of the flood water for a time at Renmark should the experience of 1870 and 1890 be repeated. This matter will require careful consideration before the actual location of the proposed works is decided. Many other details will require consideration before a complete working design can be prepared, further surveys will be needed, and the fact of the scheme for locking the river being but partially undertaken will of necessity modify detail, but there would be no special engineering difficulties in carrying out such a work, the concrete weir being longer but lower than that already built at Clarendon. In view of the disadvantages of the site disclosed by the preliminary survey and the required capacity of the storage basin, I estimate approximately that the works necessary at this place as described above would cost, say, £210,000; but in making this statement I would ask the Hon. Commissioner to note that the estimate is based upon outline sketches only, and that if a thorough examination of the neighbourhood is made, as recommended above, it is probable that not only can the site be changed with advantage, but that the cost of the work may be lowered.—A. B. Moncrieff, Engineer-in-Chief.” That was the second report he had received, and he would have it printed and the plan accompanying it lithographed. He had tried to present the case in an acceptable manner. Possibly some would say that the first weir should be the one nearest to the mouth, while others would say that it should be at Renmark. But they should be above considerations at to which district it would immediately benefit. The scheme must be looked at from a national standpoint, and they must be careful that whatever was done would fit in with the complete scheme that would be the future hope in the development of Australia.

Works Bill.« 783

\*

c0nterm X „aired"th

noble 3 ^.strea

if

>^bidgee‘

acknow.

giving »

\* It woum

Pg’ in Parlia

plying on th

d Ition, and <Pf only t

Sates also I

ntion th®

\* opinion of foment shou ■ n 4-ct, carrj grounding, o)

**Se I**

irrigation ^ .e

!L attd Darling but

jion. members should say son jgition of the St gigned tc main1 ability of the I state waterwa; $em the maint tlie navigation which, either 1 tion with, othe: for commerce within the jurii ly say was the ment. The ] wealth could a1 which its pow trade and coj given by sectio: prevent any dams, weirs, < tion to interst tion on that tion. 100 of th< said that “T1 by any law o: ^fcerce, abridge residents the ^ the waters ligation.” Power over 1 the States gi1 “rtion 98, w) \*’\*rliament t

tr^de and co:

f^d shipping

^ of any Stt Jfd the Fed. it w Section w J the fact t j the lawy 2\*^ it. 1 \* advised f^Wealth t time,

“4 \*

Austr

i

on fofriy

eeo»°n,ical 3 j upon as s

t believe, be

\* ill-feeli

jjiodified as J

and as the <

oie better u

be left for

capabilities future we j been graspi fc]ack in de TV»hicb our g us. I beg n action regar be taken til been general with your ii time, have for consider) outlines of s so, beg leav standings w who have o South Austj use of the u beg unhesisl posing this tralia eanno make any n There are n Hood waters of the adja their use if great lakes fresh by sii then deman of many t' merely to si surfaces, tl to me to 1 economical sheep or ca limited are fited, but ■ water to ir be passed With rega] ly locking irrigation, is a mista locks, if ib for navi^ basins for gation is ' be raised servoirs, construct\* scheme w tion inch deep wat dary, in' weirs. 2 joining tl gravitati\* eluding Lakes amountii The EnjJ

vested

ir

o

r>ut

.jfl®

8cbe

Stat<r

On the motion of Mr. RITCHIE the debate was adjourned until November 21.