

A HISTORY OF  
GLOUCESTER HARBOUR TRUSTEES

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Clerk to the Trustees 1958 -1966

PART 1  
1890 - 1966

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## FOREWORD

In compiling this History I have endeavoured to give the reasons for the appointment of a body of Trustees to control a defined area of the Severn Estuary, and to tell of the great amount of work undertaken by the Trustees and the small staff in administering the requirements of the 1890 Act.

It is probable that I have given emphasis to the erection and upkeep of the Navigational Aids, but it must be realised that this was the main requirement of the Act, to ensure that the Trustees, as a Harbour authority, disposed of their income in a manner which was calculated to benefit the navigation of the Severn Estuary.

A great deal of research has been necessary and the advice and assistance given to me by the present Officers, and by others who held similar posts in the past, is greatly appreciated. Without their help the task would have been much more formidable.

W A Stone  
Clerk to the Trustees  
December 1966

## Chapter One

### ORIGIN, CONSTITUTION AND MEMBERSHIP WITH DETAILS OF NAVIGATIONAL AIDS ERECTED PRIOR TO THE INCORPORATION OF THE GLOUCESTER HARBOUR TRUSTEES ON 5 JULY 1890

To obtain the reasons for the constitution of a body of Trustees to control a defined area of the River Severn, it is necessary to go back to the year 1861.

Up to 1861 the navigation of the Bristol Channel and River Severn was in the hands of compulsory Pilots of the Port of Bristol, but during 1861, owing to the increase in the trades of the Ports of Cardiff, Newport and Gloucester, an Act of Parliament was passed entitled the Bristol Channel Pilotage Act 1861. Pilotage Commissioners were constituted for these Ports with powers to licence Pilots for non-compulsory Pilotage of ships in the Bristol Channel and River Severn bound for these Ports, each Port having a defined area of jurisdiction. The Gloucester District was described as follows:

“That portion of the Bristol Channel which lies Eastward of Lundy Island, including the River Severn to the City of Gloucester and the River Wye to Chepstow Bridge.”

The Act authorised the appointment of a Pilotage Board for the Port of Gloucester consisting of the Mayor of Gloucester for the time being, two persons to be appointed by the Mayor, Aldermen and Citizens of Gloucester, and four persons appointed by the Committee of Management for the time being of the Gloucester and Berkeley Canal Company.

The Board was evidently formed from the two bodies having most interest in the flow of commerce on the River, viz:

- (a) Gloucester Corporation by Royal Charter (1580) empowered to collect dues from vessels navigating the Severn and discharging at the Quay, Gloucester
- (b) Gloucester and Berkeley Canal Company, owners of the Canal constructed between the years 1794 and 1827, with its entrance from the Severn at Sharpness.

It is of interest to note that in 1870 extensions to the Gloucester and Berkeley Canal were commenced and in 1874 the New Dock and Entrance opened at Sharpness, then enabling Sharpness to accommodate much larger vessels.

By Act of Parliament (1847) the Gloucester and Berkeley Canal Company now became known as the Sharpness New Docks and Gloucester and Birmingham Navigation Company, and for convenience is hereafter referred to as “The Canal Company”.

It soon became increasingly apparent that owing to the Pilots and Masters being reluctant to pilot vessels up and down the river during the dark winter tides, vessels were being delayed at the Kingroad anchorage, with consequent injury to the Port.

Negotiations, therefore, commenced between the Canal Company and the Pilotage Board regarding the erection of lighthouses and beacons.

In the years that follow, it is abundantly clear that the Pilotage Board had to rely in the main on grants or loans to enable them to fulfil the requests for providing Navigational Aids, and the Canal Company readily agreed to give such assistance when required to do so. The Severn and Wye Railway Company also contributed later on in a lesser degree. Their interests lay as owners of Lydney and Bullo Pill Docks, both centres of coal exporting trade from the Forest of Dean coalfields. The Gloucester Corporation, however, do not appear to have given any such support. The construction of the Canal and the provision of a Dock system at Gloucester and Sharpness had reduced to practically nil the regular flow of traffic that they had enjoyed to their quay from vessels navigating the River Severn direct, and this no doubt influenced their decision when approaches were made to them.

The first occasion that Navigational Aids were specifically mentioned in the Minutes of the Pilotage Board, is 1 October 1873, when the following offer from the Canal Company was accepted:

“for the erection of two beacons in the Barnacle Channel as proposed, the Company will place £100 at their (the Pilotage Board) disposal.”

It is recorded that the Gloucester Corporation were also approached to contribute, but there is no evidence that they did so.

On 26th November, 1873, it was resolved that:

“Beacons be erected on NORWOOD and WINSTONE ROCKS subject to the approval of the Board of Trade.”

This was obtained.

From here, there is very little of importance to record regarding any proposals for the erection of Navigational Aids until 1885 when, at a Special Meeting of a Committee of Pilotage Board members appointed to enquire into the question of lighting the River Severn, the following report was submitted by the Pilots:

“It would greatly facilitate the bringing up of vessels at night if two leading lights were erected to mark the Shoots, the one to be erected on Charston Island and the other on the mainland at Redcliffe, also if a light were erected on the Chapel Rock, a single light on the Inward Rock, or thereabouts, two leading bright lights on the Sheperdine shore to mark the Barnacle Channel, and a breast light to mark the Hayward Rock.”

These recommendations were approved and subsequently confirmed at a meeting of the Pilotage Board, with the proviso that same should be submitted to the Canal Company.

In December 1885, the Canal Company approved the recommendations made by the Pilotage Board, and authorised them to proceed, guaranteeing the payment of the expenditure involved. Later, they also agreed to pay for the annual upkeep. This work was completed in August 1886, and the complete details are as follows:

- 1 A Duplex Dioptic light at CHARSTON ROCKS. This apparatus was installed in an existing stone built lighthouse owned by the Great Western Railway Company and with whom an agreement was entered into. This lighthouse was previously used in conjunction with their New Passage Steam Ferry service which operated between Portskewett and the New Passage. The ferry service was discontinued when the Severn Tunnel was opened to rail traffic on 1 December, 1886.
- 2 A Duplex Double Dioptic light 20 feet above ground at Mathern Cliff, REDCLIFFE. Grant of land obtained from Messrs Radcliffe & Raikes.
- 3 A red light 15 feet above ground on the CHAPEL ROCK near Beachley. Grant of land obtained from R C Jenkins, Esq.
- 4 White light near Pill House Farm near the INWARD ROCK. Grant of land obtained from Sir W Marling.
- 5 & 6 Two white lights 15 feet and 20 feet above ground respectively at SHEPERDINE to show a clear course through the Barnacle Channel. Grant of land obtained from H Cullimore, Esq
- 7 A light 15 feet above ground near FISHINGHOUSE Farm throwing a red ray over the Hayward Rock and a white light when clear of it. Grant of land obtained from Lord Fitzhardinge.

With the exception of Charston the lamps were fitted to Pitch Pine Posts, and it was agreed that they should be lit from 1 September to 1 May each year.

It is worthy of note that the landowners concerned were very co-operative and, in all cases, a quite nominal rent was charged. Most of these arrangements are still in force at the present time, although ownership of the land may have changed and the rents revised.

Various difficulties were experienced in the first twelve months or so. One lamp exploded at Sheperdine, and the light at Redcliffe proved to be inadequate. This was replaced by a more powerful Harvie lamp costing £14.10.0. The upkeep of these lights, too, by local labour, was not always satisfactory, complaints being received from Pilots that lamps were not lit, all of which added to the responsibilities of the Pilotage Board.

During the early part of 1888, requests for further lighting of the River and for increasing the efficiency of the existing lights were continually stressed. One complaint indicated that when vessels approached The Shoots, the Charston and Redcliffe Lights were on so nearly the same level or line of sight that it was not always possible to distinguish one from the other, This eventually led to the placing of an order for one Lindberg Revolving Light Apparatus at a cost of £132 for Charston. This apparatus with a range of 10 miles would show a continuous light night and day, and needed a visit only once weekly. Difficulty had previously been experienced in reaching this lighthouse daily in rough weather. The costs were met by a loan from the Canal Company. However, this Swedish lamp did not initially fulfil the guarantee of the suppliers; it is reported as having caught fire one month after installation. In addition, Redcliffe light was increased in height from 25 feet to 35

feet, thus giving Pilots and Masters a more positive means of recognition in relation to Charston Light.

But the time had come to reconsider the whole question of Navigational Aids, particularly the financial aspect. Expenditure was mounting and there was no direct revenue for this service from shipowners. Consideration was, therefore, given to a separate Body being constituted for the purpose of erecting and maintaining lights and to exact Toll Rates and Duties upon ships in respect thereof under the General Pier and Harbour Act 1861. The support of the Canal Company, the Gloucester Corporation, the Gloucester Chamber of Commerce and the Pilots, was obtained and at a meeting of the Pilotage Board in August 1888 it was resolved that:

“The Clerk be and is hereby authorised to take such steps and proceedings as may be necessary either to the Board of Trade for a Provisional Order, or otherwise as may be deemed advisable, and he may be advised –

- 1 To constitute the Gloucester Pilotage Board a Harbour Authority for the Port of Gloucester and also under the Merchant Shipping Acts.
- 2 And for such Authority to acquire land and execute works and erect and maintain lights, beacons and buoys on the River Severn or the banks thereof, between Kingroad and Sharpness for the better navigation of vessels thereon and to levy tolls, rates and charges upon vessels using the said River. “

Application was duly made to the Board of Trade and customary notices published. Objections to the proposals were received from:

- The Canal Company
- The Severn Commissioners
- The Severn & Wye Railway Company
- The Severn Carrying Company
- The Scottish Boiler Insurance Company

The two main objections were:

- 1 To the Pilotage Board becoming a Harbour Authority.
- 2 To the area of jurisdiction being defined as “The Port of Gloucester”. This area by Order in Council 1882 extended to Westgate Bridge, Gloucester, and it was considered that the proposed new Authority’s limits should not extend beyond the Railway Bridge at Sharpness.

Both objections were eventually conceded by the Pilotage Board and for (1) the application was revised to establish Lighting Commissioners, and for (2) a line was agreed just below the Railway Bridge, the area being described in full later.

On 5 July 1889, the Pier and Harbour Orders Confirmation (No. 3) Act 1889, was passed. This Order is cited as the Sharpness Lighthouse Order 1889, and is described as:

“Order for lighting and facilitating the Navigation of the River Severn in the vicinity of Sharpness.”

The Sharpness Lighthouse Trustees therefore came into being, composed of:

- The Pilotage Board 7 members
- Severn & Wye etc Railway Company 1 member
- Severn Commissioners 1 member

The Order stated that:

“they are hereby constituted the Local Authority within the meaning of the Merchant Shipping Act 1854 within the limits of the Order, and shall be a body corporate with perpetual succession and a Common seal with power to purchase, hold and dispose of lands, etc, etc.”

The limits referred to above, and within which the Trustees shall have authority, and the power to levy rates for the purpose of this Order, is described as follows:

“All land above high water-mark acquired by the Trustees under this Order and so much of the area within the Port of Gloucester, defined by Warrant of the Lords Commissioners of Her Majesty’s Treasury, dated the tenth day of January, one thousand eight hundred and eighty-two, as is comprised within a boundary line commencing at Redwick Pill, in the county of Monmouth (being the eastern limits of the Port of Newport), and extending from thence in a straight line in a southerly direction across the River Severn until it meets another straight line drawn from and intersecting the Flat and Steep Holm Islands, in the Bristol Channel, to the point at Aust, in the county of Gloucester (being the northern and eastern limits of the Port of Bristol), and from then extending up the River Severn, and including both banks thereof as far as the south-west side of the Wheelrock, in the said river, half-a-mile or thereabouts northward of Sharpness Point, and including all rivers, pills, creeks, channels, harbours and canals within the aforesaid limits, but excluding from such limits (except for the collection and recovery of rates), any lands, docks, or other property of the Sharpness New Docks and Gloucester and Birmingham Navigation Company, (The Canal Company).”

The Trustees were required to maintain existing, and erect new, lighthouses and:

“Subject to such terms and conditions as may be previously agreed upon by the Pilotage Board, the existing lighthouses, lights, beacons, buoys and land or sea marks erected, constructed, or placed for the navigation or guidance of vessels within the limits of this Order are hereby vested in the Trustees, who shall from and after the first day of January one thousand eight hundred and ninety, maintain the same in a proper state of efficiency to the satisfaction of the Sharpness New Docks and Gloucester and Birmingham Navigation Company, (The Canal Company). And the Trustees shall, subject to the provisions of this Order, from time to time, and so soon as money can be raised for that purpose, erect, construct, place, and maintain such new or additional lighthouses, lights, beacons, buoys and land and sea marks, and all necessary accesses, works, and conveniences connected therewith at such places within or adjacent to such limits and of such character as they shall from time to time consider expedient.”



And:

“On and after the first day of January, one thousand eight hundred and ninety, the Trustees may levy on and in respect of vessels navigating any part of the River Severn within the limits of this Order any rates not exceeding the rates specified in the schedule to this Order.”

The rates to be applied as follows:

- 1 Payment of costs of this Order
- 2 Expenses of collection of dues.
- 3 Cost of maintenance, repair, improvement, etc., of the lighthouses, beacons, buoys, etc, vested in or erected by the Trustees.
- 4 Payment of any interest of any money borrowed under this Order.
- 5 Providing the instalments or creating a sinking fund to be discharged within 50 years of borrowing.
- 6 Providing lighthouses authorised by this Order.

The Trustees also had powers to borrow a sum of not exceeding £3,000 on the security of the rates.

The first meeting of the Trustees was held on 13th August 1889, when approval was given for the taking over of the existing lighthouses, buoys, beacons, from the Pilotage Board for a sum of £336.12.9 to be paid out of a sum to be raised by the Trustees.

This amount included payment for:

- One Post and Shedding at Fishhouse
- Two Posts and Shedding at Sheperdine
- One Post and shedding at Pill House – Inward Rock
- One Post and Shedding at Chapel Rock
- One Post and Shedding at Mathern – Redcliffe
- One Lindberg Revolving Light Apparatus at Charston
- Two Beacons on the Counts Rock – previously referred to as Norwood and Winstone, later known as Narwood and Counts

Many problems now faced the Trustees. First to find the money to reimburse the Pilotage Board, and then to provide the cash to maintain the lights and beacons to the end of the year, as their authority to levy light dues on vessels did not commence until 1st January 1890. In addition, they were immediately faced with a programme of additional navigational aids.

The fact that they were denied the powers of a Harbour Authority weighed heavily against them, their powers being thus very limited. This was evident when they applied for a loan from the Public Works Commissioners on the security of their future income. The offer received was for a 20-year period at 5%, which was considered very unsatisfactory at that time and was not accepted.

Their estimated income was shown as £435 per annum, based on an average tonnage of 505,173 at the following statutory rates:

For every vessel passing outwards or inwards on any voyage to or from any place beyond the United Kingdom.....a rate not exceeding one fourth of one penny.

For every vessel passing outwards or inwards on any voyage to or from any place within the United Kingdom.....a rate not exceeding one sixth of one penny.

The Canal Company and the Railway Company agreed to give financial assistance to light and maintain the existing lights and beacons for the ensuing year and, after further consultations, the Canal Company agreed to advance a sum of £550 by means of a Mortgage Deed to enable the Trustees to discharge their immediate liabilities.

The question of the constitution of a Harbour Authority was considered at an early meeting of the Trustees and from examination of the Minutes it is apparent that, if such application was made, it would now be sympathetically received by the Authorities who had previously objected. This is probably due to the fact that they were now represented on the Sharpness Lighthouse Trustees and, by virtue of this, would be closely associated with the Harbour Authority if so formed.

At a meeting in November 1889 of the Sharpness Lighthouse Trustees, a resolution was passed:

“That this Board do apply to the Board of Trade for a Provisional Order to constitute them a Harbour Authority for the Port of Gloucester “

It is of interest to record here their main reasons:

- To perform the duties already vested in the Sharpness Lighthouse Trustees
- To make provision for the refuge and shelter of vessels
- To remove rocks and other obstructions
- To have powers to raise and remove sunken vessels and recover the expenses of so doing
- To prevent the use of unseaworthy vessels
- To prevent the improper discharge of ballast
- To make provision for lightening and loading of vessels.

It should also be emphasised that the Trustees anticipated more advantageous terms for borrowing money if a Harbour Authority was constituted. The Canal Company, who had carried considerable responsibilities throughout these years, could probably foresee some relief by the appointment of such an Authority. They were closely consulted during the preparation of the application to the Board of Trade which was presented at the end of 1889.

During all these negotiations the Trustees endeavoured to conform to a programme of improvement to the navigational aids to the best of their ability, and this work is summarised as follows:

Two lights at CONYGRE PILL to give vessels a clear berth to pass Hayward Rock and to keep clear of Bull and Black Rocks. Grant of land obtained from Lord Fitzhardinge. Harvie lamps were purchased for these lights and to replace all existing masthead type lights. The importance of Redcliffe Light as a lead through the Shoots was emphasised when a hut was built near the light and accommodation provided for the lighthouse keeper to remain on duty throughout the hours of darkness.

And so to 5 July 1890, when the Pier and Harbour Orders Confirmation (No. 3) Act 1890 was passed for constituting a HARBOUR AUTHORITY for the Maintenance, Regulation and Lighting of a Harbour in the Estuary of the River Severn.

A body of Trustees was constituted, incorporated by the name of “**THE GLOUCESTER HARBOUR TRUSTEES**” and composed of the following members:

The Sharpness Lighthouse Trustees comprising:

- Gloucester Corporation (3) - W Stafford, Esq (Mayor)
  - A Buchanan Esq
  - H Mousell Esq
  - Canal Company (4) - R G Foster Esq
  - Capt D Farrant RN
  - G W Keeling Esq
  - J H Jones Esq
  - Severn & Wye Railway - W C Lucy Esq
  - Severn Commissioners - Rev C H Steward
  
  - Corporation of Worcester - R Smith Carrington Esq (Mayor)
  
  - Borough of Tewkesbury - E Thomas Esq (Mayor)
  
  - Glos Chamber of Commerce - A Slater Esq (President)
  
  - The person entitled to possession of Berkeley Castle - east side of River - Rt Hon. the Lord Fitzhardinge
  
  - The person entitled to possession of Sedbury Estate - west side of River - Sir William H Marling, Bart
  
  - Severn Commissioners (2) - G E Martin Esq
  - T Rowley Hill Esq
  
  - Severn & Wye etc Railway Company (2) - Capt W B Marling
  - J Sully Esq
  
  - Corporation of Gloucester - J Platt Esq
  
  - Gloucestershire County Council - R V Vassar Smith Esq
  
  - Stroudwater Navigation Company - E C Little Esq
  
  - Staffs and Worcs Canal Company - William Jones Esq
- Making a total of 22 Trustees

The Order stated that:

“The limits for which the Trustees shall have authority....comprise all land above high-water acquired from time to time by the Trustees under this Order and so much of the area within the Port of Gloucester defined by Treasury Warrant dated the tenth day of January one thousand eight hundred and eighty-two as is comprised within a boundary line commencing at Redwick Hill in the county of Monmouth (being the eastern limits of the Port of Newport) and extending from thence in a straight line in a southerly direction across the River Severn until it meets another straight line drawn from the intersecting the Flat and Steep Holm Islands in the Bristol Channel to the point at Aust in the county of Gloucester (being the northern and eastern limits of the Port of Bristol) as far as the site of the Severn Tunnel and from thence extending up the River Severn and including both banks thereof as far as the south-west side of the Wheel Rock in the said river half a mile or thereabouts northward of Sharpness Point and including all rivers, pills, creeks, channels, harbours and canals within the aforesaid limits.”

This area has been given in detail to show the variation of the limits with that of the previous limits of the Sharpness Lighthouse Trustees.

The powers granted are quoted as follows:

“The Trustees shall exercise execute and perform all the powers duties and functions of the Sharpness Lighthouse Trustees under the Sharpness Lighthouse Order 1889 as a lighting and local authority and shall also exercise execute and perform all the rights privileges powers and duties of a harbour and local authority under the Merchant Shipping Acts 1854 1855 1862”

and includes permission to:

- Dredge, scour, deepen and enlarge channels
- Remove rocks and other obstructions
- Lay down anchorages, moorings for protection and safety and for lighting vessels
- Take such proceedings and adopt such remedies as they may think best for the raising and removal of sunken vessels and wrecks and other obstructions to the navigation and may recover, sue for and demand the expense of so doing
- Prevent employment of unseaworthy vessels
- Make provision for lightening of cargoes
- In addition to the sum authorised to be borrowed by the Sharpness Lighthouses Order 1889 the Trustees may from time to time borrow and re-borrow at interest such money as may be required for the purposes of this

Order, not exceeding in the whole the sum of ten thousand pounds on the security of the rates authorised by this Order.

It is also stated that:

“the existing lighthouses (including the Charstone Lighthouse) lights beacons buoys and land or sea marks erected constructed or placed for the navigation or guidance of vessels within the limits of the Sharpness Lighthouses Order 1889 are hereby vested in the Trustees who shall on and after the first day of January one thousand eight hundred and ninety-one maintain the same in a proper state of efficiency to the satisfaction of the Sharpness New Docks and Gloucester and Birmingham Navigation Company (Canal Company) and the Trustees shall subject to the provisions of this Order from time to time and as soon as money can be raised for that purpose erect construct place and maintain such new or additional lighthouses lights beacons buoys and land and sea marks and all necessary accesses works and conveniences connected therewith at such places within or adjacent to such limits and of such character as they shall from time to time consider expedient: and the Trustees shall have vested in them all the powers conferred by the Sharpness Lighthouse Order 1889 upon the Sharpness Lighthouse Trustees and shall take over and be responsible for the debts liabilities and obligations of such Trustees.”

In addition to the Trustees having permission to levy light dues previously raised by the Sharpness Lighthouse Trustees, the Schedule of the Order states:

“For all vessels using the moorings or other facilities laid down by the Trustees, a rate of one halfpenny per registered ton for every tide such vessel may be moored.”

The date for the initial appointments of Trustees was 1st August 1890; for levying rates 1st January 1891.

At a meeting of the Sharpness Lighthouse Trustees on 10 October 1890, it was recommended that all their assets, including lighthouses, lights, lamps and other appurtenances, and land held under lease be transferred as from 1 January 1891 to the Gloucester Harbour Trustees upon them taking over and becoming responsible for the Mortgages executed by the Lighthouse Trustees.

At a meeting of the Gloucester Harbour Trustees on 2 December 1890 to negotiate the handing over of lighthouse, beacons, etc, the above terms were agreed and the following navigational aids became vested in the Harbour Trustees from 1 January 1891:

Conygre	-	2 lights on posts
Fishhouse	-	1 light on post
Sheperdine	-	2 lights on posts
Inward Rock	-	1 light on post
Chapel Rock	-	1 light on post
Redcliffe	-	1 light on post
Charston	-	1 lighthouse (stone) with revolving light.

From this date, with the incorporation of the Gloucester Harbour Trustees, Navigational Aids become a separate section under Chapter 2.

The constitution and membership of the Trustees remained unaltered until 1921, when the passing of the Pilotage Order Confirmation (No. 5) Act 1921 reconstituted the Pilotage Board under the title of the Gloucester Pilotage Authority, and the number of members serving was increased from seven to eight, elected as follows:

- Three Members appointed by the Mayor, Aldermen and Citizens of Gloucester
- Four Members appointed by the Sharpness New Docks etc Co (Canal Company), of whom one shall be a Shipowner
- One Member from among two persons (hereinafter referred to as Pilots' representative), elected in a manner hereinafter provided by the Pilots.

As previously stated, Members of the Pilotage Board also became Trustees by virtue of their original appointment as Sharpness Lighthouse Trustees and so, from this date 19 August 1921, by this reconstitution the Trustees' membership is increased to 23 and includes a representative of the Pilots.

In September 1929, the Clerk reported that a Bill was being promoted by the Bristol Corporation which modified the limits of the Port of Bristol. On examination of a chart showing these proposed new limits, it was apparent that if this Bill became law, a triangular area immediately south-west of the Severn Tunnel would be left outside the jurisdiction of both the Port of Bristol Authority and the Gloucester Harbour Trustees, and this area comprised a considerable part of the navigable channel through the Shoots. The Trustees' particular objection was to the area being left uncontrolled with no responsible authority to deal with the possible stranding of vessels, but the Board of Trade directed the attention of the Trustees to Section 530 of the Merchant Shipping Act 1894 by which power was given to a Harbour or Conservancy Authority to move any obstruction in or near any approach to a Harbour or Tidal Water that may be a danger to navigation. The Board also stated that they did not consider that there was sufficient reason to justify their pressing the Corporation to retain control of the area in question. Having regard to these observations, the Trustees did not consider it necessary to incur the expense of opposing the Bill in Parliament, or to take any further action and Bristol Corporation duly proceeded with the promotion of the Bill. This matter was of particular interest to the Trustees later as, following a Ministry of Transport investigation and subsequent findings regarding the oil tanker disasters which occurred in the River Severn during 1960, the fact emerged that this area was outside anyone's jurisdiction, and the Trustees were requested to take such steps as may be necessary to bring the area under their control. And so, in 1963 their limits were extended, under the Pier and Harbour Order (Gloucester Harbour) Confirmation Act 1963, to include the additional area which the Port of Bristol had previously discarded. These negotiations are recorded later in this chapter.

The death in 1936 of Sir Percival S Marling Bart VC, presented a problem to the Trustees as to his successor. The original appointment was quoted in the 1890 Act as, "The person entitled to possession of Sedbury Estate", which is situated on the west side of the River Severn bordering Slimeroad Bay. A very thorough enquiry

was instituted, including a notice in the local paper and correspondence with the District Council, to endeavour to discover the person so entitled to serve as a Trustee, but all the evidence pointed to the fact that, prior to the death of Sir Percival and also since that date, the estate had been broken up and sold to various people, none of whom claimed the right to serve as a Trustee. From 1937 onwards, therefore, the number of Trustees is virtually reduced from 23 to 22.

At the June 1943 meeting of the Trustees, consideration was given to a report received on the War Damage Public Utility Undertaker's Scheme, and as it was probable that the Trustees would be brought into the scheme, it was considered advisable to join the Docks and Harbour Authorities Association. And so, from 1944, the Gloucester Harbour Trustees became a member of this Association.

From 1 January 1948, the name "Canal Company", ever present in the Minutes since the inception of the Gloucester Harbour Trustees, disappeared to be replaced by the Docks and Inland Waterways Executive, South Western Division, the Body appointed by the British Transport Commission to implement the Transport Act 1947. It was essential to the Trustees that the close relationship that had existed with the Canal Company should continue with their successors, and in this respect it should be noted that the Executive were now empowered to nominate Trustees previously appointed by the Severn Commissioners (3) and the Staffordshire and Worcestershire Canal Company (1).

The Trustees were also informed at this time of the transfer of the Severn and Wye Joint Railway (which included the Port of Lydney) to the Railway Executive, Western Region, and this resulted in the resignation of the existing Trustees and new appointments being made by the Railway Executive.

In 1951 Lydney Docks was transferred from the control of the Railway Executive to the Docks and Inland Waterways Executive, and the three members nominated by the Railway Executive resigned. The Docks and Inland Waterways Executive, therefore, became responsible for these nominations and they appointed Mr E Perry, Honorary Engineer to the Trustees at that time, to fill one of these vacancies, the other two remaining vacant for the time being. This gave the Waterways Executive a total representation of seven members, excluding their entitlement of four members through the Gloucester Pilotage Authority.

By Act of Parliament in July 1954, the Stroudwater Navigation was abandoned and from that date their representation on the Trustees ceased. This reduced the number of Trustees from 22 to 21 members.

Following further reorganisation in 1955, the Docks and Inland Waterways Executive assumed a new title viz. 'British Transport Waterways' and from now on is referred to as 'British Waterways'. Another effect of this general reorganisation was the transfer of Lydney Docks from the control of British Waterways to that of the British Transport Commission, Cardiff Docks. The representation on the Trustees was not affected, however, with British Waterways continuing to appoint the members concerned, probably because the Docks at Cardiff and British Waterways were still under one control viz. the British Transport Commission.

The change of control at Lydney Docks created a problem for the Trustees regarding the collection of light dues from vessels using that Port. This was resolved by an arrangement being entered into with the British Transport Commission, Cardiff

Docks, whereby they collected the dues on behalf of the Trustees with an entitlement to retain 5% of such receipts as collection dues. British Waterways had previously taken over similar duties from the Canal Company (without charge) for traffic to the Port of Gloucester.

The necessity to be able to deal with any urgent matters which might arise between the normal quarterly Meetings, decided the Trustees in 1955 to appoint a small committee for that purpose and the Emergency Committee so formed consisted of the following members:

- Mr F G B Clayton - Chairman
- Mr E Perry - Honorary Engineer
- Mr W H Cullis
- Mr G H Hughes
- Capt H H Burbidge

The incident of the wreck of a lighter loaded with logs, and other serious incidents which had previously occurred (recorded in Chapter 6), led the Trustees to examine their legal position as a Harbour Authority and at a special meeting called on 23 October 1958, this matter was fully discussed. The Trustees found that their position in such cases was that, whilst they had the right to remove any wreck and recover the cost from the owner, the use of these powers is, in fact, very limited as, under the existing Order, the Courts are most likely to define 'owner' in such cases as the owner of the vessel at the time the expenditure of clearing is incurred. Thus an owner, if he considers the value of the craft when salvaged will be less than the cost of salvage, can get out of his liabilities by abandoning the craft, in which case it ceases to have an 'owner' and the Trustees are left to deal with the wreck as they think fit, at their own cost. The Chairman, Mr F G B Clayton, stated at this meeting that the Ministry of Transport had informed him that they now have a Model Clause for Parliamentary Orders, the effect of which is to define the 'owner' of the vessel as the owner at the time the vessel was wrecked. Adoption of this new Clause would obviously give the Trustees a much better chance of recovering any costs involved in wreck clearance from the owner of the vessel, besides lessening the possibilities of litigation, and it was resolved to promote the necessary Parliamentary Order forthwith, the cost of which was estimated at £350.

Messrs Sherwood & Company were appointed by the Trustees to act for them in the promotion of this Order and eventually 'The Pier and Harbour Order (Gloucester) Confirmation Act 1959 received Royal Assent on 29 July 1959. The opportunity to include other Model Clauses was taken with a view to improving the Trustees' position generally and to bring their Acts up to date. The relevant chapter in the Order regarding wrecks is as follows:

- 9 (1) In their application to the Trustees sections 530 and 532 of the Merchant Shipping Act 1894 (which confer powers on the Trustees with respect to, and with respect to anything in or on, any vessel such, stranded or abandoned in such manner as to be an obstruction or danger to navigation in the harbour or in or near any approach thereto) shall have effect –
  - (a) subject to the provision of the next following section, and
  - (b) in relation to a vessel sunk, stranded or abandoned



before, as well as after, the passing of this Act.

- (2) Subject to subsection (3) of this section, and to any enactment for the time being in force limiting his liability the Trustees may recover as simple contract debt from the owner of any vessel in relation to which they have exercised their powers under the said section 530, being a vessel sunk, stranded or abandoned after the passing of the Act confirming this Order, any expenses reasonably incurred by them under that section in relation to that vessel which are not reimbursed out of any proceeds of sale within the meaning of that section.
- (3) Except in a case which is in the opinion of the Trustees a case of emergency, subsection (2) of this section shall not apply in relation to any vessel unless, before exercising in relation to that vessel any of the powers conferred on them by the said section 530 other than the power of lighting and buoying the Trustees have given to the owner of the vessel not less than forty-eight hours' notice of their intention to do so; and if before the notice expires the Trustees receive from the owner counter-notice in writing that he desires to dispose of the vessel himself, and no direction is served in respect of this vessel under paragraph (b) of sub section (2) of the next following section, he shall be at liberty to do so, and the Trustees shall not exercise the powers aforesaid in relation to that vessel until the expiration of seven days from the receipt of the counter-notice and of any further continuous period thereafter during which the owner of the vessel proceeds with the disposal thereof with all reasonable diligence and in compliance with any directions for the prevention of interference with navigation which may be given to him by the Trustees.
- (4) Notice under the last foregoing sub section to the owner of any vessel may be served by the Trustees either by delivering it to him or by sending it to him by post in a registered letter addressed to him at his last known place of business or abode in the United Kingdom or, if the owner or any such place of business or abode is not known to the Trustees, by displaying the notice at the offices of the Trustees for the period of its duration.
- (5) In this section, the expression 'owner' in relation to any vessel means the person who was the owner of the vessel at the time of the sinking, stranding or abandoning thereof.

In this Order the Trustees were also empowered to create a Reserve Fund, details of which are included in the Chapter headed 'Finance'.

It was noted at the July 1961 meeting that, with the appointment of Members to represent British Waterways for the forthcoming two years, commencing 1 August 1961, the name of Mr W H Cullis was missing, and Mr Cullis informed the Trustees that it was his wish that a younger man be appointed in his stead. Regret was expressed by the Chairman, who spoke of Mr Cullis' long association with the

Trustees. This resignation severed a connection of well over 50 years of the Cullis family with the Trustees, both Mr Cullis and his father having served as Chairman, and had given much valued advice and had successfully steered the Trustees through many critical periods. Mr Cullis' resignation created a vacancy on the Emergency Committee which was filled by the appointment of Mr F Collings.

Early in 1962, the Ministry of Transport intimated that the small area of the River Severn between the Trustees' limits and those of the Port of Bristol (referred to previously in this chapter) should, by means of a Provisional Order, come under the jurisdiction of a Harbour Authority, such Authority being either the Port of Bristol or the Trustees. It was emphasised that part of the main channel to Sharpness, about 1¾ miles long, lay within this area and it was noted that both Shoots Beacons were located within these waters. It was soon apparent that the Port of Bristol was not interested in this proposal, and it was recalled that they had promoted a Bill in Parliament in 1929 which modified their limits by excluding from their jurisdiction this particular area of the River Severn. The Trustees, therefore, agreed to the Ministry's request, subject to them reimbursing the Trustees for all expenses incurred in the promotion of a Provisional Order or Private Bill, and the Ministry agreed to this request. Rees & Freres, Parliamentary Agents, were appointed to act for the Trustees in the promotion of a Provisional Order and on 31 July 1963, 'Pier and Harbour Order (Gloucester Harbour) Confirmation Act 1963' received Royal Assent.

There had been two objections – from ICI Industries Ltd and Swangrove Estates – both of whom owned land adjacent to the area of the River Severn described in the Order. These objections were, however, disposed of satisfactorily by slight modifications to the Clauses of the Order. At the suggestion of our Parliamentary Agents, the opportunity was taken to bring our existing powers up-to-date and Sections 8, 9 and 10 of the Order are, therefore, additional to the purpose of the original application. Briefly, Clause 8 gives the Trustees additional powers for recovery of any authorised rates due to them as a debt in any court of competent jurisdiction, and Clause 9 and 10 give the Harbour Master, or person so appointed, power to give directions prohibiting the mooring of vessels in any part or parts of the harbour. The total costs incurred by the Trustees in the promotion of this Order amounted to £493, and this amount was duly recovered from the Ministry of Transport.

On 20 December 1963 the Trustees were informed by the Ministry of Transport of the proposal to introduce into Parliament the Welsh Shipping Agency Bill. This Bill would authorise the Welsh Shipping Agency Limited to construct a jetty 7,600 yards long and a deep water wharf in the Severn Estuary to enable ships up to 10,000 tons to discharge iron ore direct to the Spencer Works of Richard Thomas and Baldwin at Llanwern (Mon). The seriousness of this project in relation to existing navigational interests necessitated a meeting of the Emergency Committee of the Trustees, and at this meeting it was decided that, in conjunction with the British Waterways Board, certain undertakings would be required from the Promoters of the Bill. These are set out hereunder:

- 1 The Plans and Sections for the Works should not be approved by the Minister until the Harbour Trustees have been consulted and given their approval thereto.
- 2 It is considered essential that both the permanent Works and temporary Works should be well lighted and furthermore that fog

signals should be provided and operated when necessary and that if necessary Racon Beacons should be provided to assist with radar detection.

The approval of Trinity House should not be given until the Harbour Trustees have been consulted and indicated their approval.

- 3 The Company should not be entitled to collect dues from any vessel using the proposed Works as a temporary berth in the event of an emergency and not discharging or loading goods therefrom.
- 4 A clause should be inserted that if the regime of the river is affected by the construction of the Works in such a way that the Trustees' or the Boards' interests are adversely affected, the Company shall take such steps as may be necessary to restore the position.
- 5 A small section of the Trustees' area of jurisdiction is included in the proposed scheme. As it is noted that the proposals in the Bill would create another Harbour Authority over this area of the River Severn, the Trustees request that due consideration be given to this point.

At the June 1964 meeting of the Trustees, the Chairman was able to report that the Promoters had agreed to insert in the Bill the various clauses requested for the protection of the Trustees and the had also agreed that there would not be any charge raised for vessels bound for the Port of Gloucester, if such vessels should need to use the berths during an emergency.

Following the Biennial appointment of Trustees for 1965, it was noted that a vacancy had occurred on the Emergency Committee due to the resignation of Mr G H Hughes, who had served as a representative of British Waterways through the Gloucester Pilotage Authority for the past ten years. The resignation was due to reorganisation within British Waterways and Mr Hughes' transfer to other duties. The vacancy was filled by the appointment of Mr N Croxford and the five Members forming the Emergency Committee are now as follows:-

- Mr R G B Clayton - Chairman
- Mr R F Hatton - Honorary Engineer
- Mr F Collings
- Capt H H Burbridge
- Mr N Croxford

At the close of 1966 the Members are as follows:

#### Gloucester Pilotage Authority

- British Waterways Board (4) - F G B Clayton Esq  
- Capt H H Burbridge  
- C J Priday Esq  
- W E Clements Esq
- Gloucester Corporation (3) - A G Neal Esq, Mayor  
- G J Dance Esq JP  
- N W Gillett Esq
- Pilots' Representative - Pilot L T A Spiers

British Waterways Board (7)	-	J C Bradley Esq
	-	F Collings Esq
	-	N Croxford Esq
	-	G S Marshall Esq
	-	R F Hatton Esq
	-	M E Lyon Esq
	-	J C Wolridge Esq
Corporation of Worcester	-	F Lewis Esq, Mayor
Borough of Tewkesbury	-	G S Brown Esq, Mayor
Glos and County Chamber of Commerce		K D Stephens Esq, President
Gloucester Corporation	-	H W Collier Esq, JP
Gloucestershire County Council	-	W H Davies Esq
Berkeley Estates	-	The Rt Hon the Earl of Berkeley

Making a total of 21 Trustees

## Chapter Two

### NAVIGATIONAL AIDS

With the passing of the Piers and Harbours Order Confirmation (No 3) Act 1890 on 5 July 1890, and the appointment of the Gloucester Harbour Trustees, the Trustees became responsible for all Navigational Aids previously owned and maintained by the Sharpness Lighthouse Trustees, the vesting date being 1 January 1891. Their appointment as a Harbour Authority was of some advantage as it gave them certain additional powers which their predecessors did not have. Details and functions of the navigational aids at this time are as follows:

- Revolving white light at Charston and a fixed white light at Redcliffe on Mathen Cliff, acting as leading lights through the Shoots Channel.
- Fixed light on the Chapel Rock near Beachley, white at centre and green at sides, enabling vessels to clear this rock.
- Fixed white light on Inward Rocks near Pill House, showing the position of these rocks and indicating where vessels enter or leave the western end of the Counts Channel.
- Two fixed white lights at Sheperdine near the Whitehouse, acting as leading lights though the Counts Channel.
- Fixed light on shore at Fishhouse opposite Hayward Rock, white on both sides but showing a red shade when abreast of the rock.
- Two fixed lights at Conygre Pill which, when in line, give a clear berth to pass Hayward Rock and show the way over the grounds from near Guscar Rocks on high spring tides. The front light opens a green shade as a warning to vessels on approaching the Bull Rock and the back light shows a red shade when vessels are abreast of that rock.

In addition, the following lights, owned and controlled by other Authorities but adjacent to the Trustees' area of jurisdiction, were in operation:

- Fixed white light on the North Pier Head at Sharpness Docks and a red light on the cliff behind, leading outside the Bull and Black Rocks.
- Fixed white light at Lydney Pier Head showing the entrance to that harbour.
- Two white fixed lights with a red light at centre, showing the navigable openings of the Severn Railway Bridge.

The Trustees, aware of the necessity for improving the marking of the navigable channel, continued with the programme of their predecessors and by October 1891 two navigational aids, known as Upper and Lower Shoots Beacons had been erected in the Shoots Channel at a cost of £204. One beacon was erected on the western extremity of the English Stones and the other on the edge of the high rock immediately to the north of Sand Bay. In the following year, however, the Upper

Beacon was removed and re-sited on the edge of the rock just above the Lake so that the line of the two beacons would correspond approximately with the light on the edge of the English Stones, and the Upper Beacon would be opposite to the most projecting point of the Gruggy Rocks. These beacons were the first navigational aids to be erected by the Trustees outside their area of jurisdiction.

The most serious obstacle to the navigation of the River Severn by large vessels to and from Sharpness Docks was a group of rocks called Bull Rocks in the fairway of the channel and the Trustees, realising the necessity for the removal of this obstruction, decided to examine the problem. It was found that as far back as 1882, an application had been made to the Board of Trade to reduce the higher portion of Bull Rock and Black Rock but, owing to objections by Lord Fitzhardinge and the Commissioners for Sewers, consent was not forthcoming. With the support and financial guarantee of the Canal company, a modified scheme was prepared which did not interfere with Black Rock but which would give a new channel 500 ft in width between Black Rock and the shore, and necessitated the lowering of portions of the Bull Rock to two feet below the sill of the entrance gates at Sharpness. Negotiations were this time successful and the work allowed to proceed, subject to suitable compensation being paid to Lord Fitzhardinge and his tenant, as the scheme entailed the removal of the fishery stakes for putchers. This matter was satisfactorily resolved by the payment of £300 to Lord Fitzhardinge and £31 to his tenant. The contract was completed towards the end of 1893 and this provided an entirely new channel for vessels on passage to and from Sharpness Docks. The cost, including compensation payments, amounted to £2,711 and was paid by the Canal Company, their terms being recorded as follows:

“That the Harbour Trustees do recognise that the cost as well as compensation for the lowering of Bull Rocks will be advanced by the Canal Company by way of a loan upon the understanding that in the event of the Harbour Trustees becoming possessed hereafter of any funds available for the purpose, the cost of such outlay shall be repaid to the Canal Company.”

There is no record, however, in the years that follow of any repayment having been made to the Canal Company.

The opening up of this new channel necessitated the erection of additional navigational aids and in 1894 two white fixed lights were erected on Fishhouse Farm, acting as a lead through the new channel. There was previously a light on this land denoted by a red sector when abreast of Hayward Rock, and this characteristic was incorporated in the new front light. Grant of land for the site of these two lights was obtained from Lord Fitzhardinge. In the same year Bull Rock Beacon was erected as an additional aid to mark the channel past the Bull Rock.

The necessity for a light in the vicinity of Lyde Rock to give a clear passage past these rocks was stressed by the Pilots in 1896 and the Trustees immediately took steps to provide a suitable navigational aid. This took the form of an iron tower on the rock surmounted with a fixed light, white in centre and showing red on two sides, enabling vessels to be steered clear of the Hen and Chickens Rock. The Canal Company guaranteed the costs which amounted to £264, and a mortgage loan for this amount was subsequently drawn up between the Canal Company and the Trustees.

In 1898 an additional navigational aid was erected near Pill House Farm at Inward Rocks. The existing light was re-sited to enable these lights to lead vessels through the Barnacle Channel until clear of Counts Beacon. Grant of land was obtained for both sites from Sir W H Marling, the lease for the original light being cancelled.

The Trustees, pursuing their programme of improvements, marked Hills Flats Rock by means of a buoy on 1899 and in the following year erected two fixed white lights on timber structures at Narlwood to act as a lead from the Barnacle Channel towards Hill Flats Rock. The cost, amounting to £288, was again met by a loan from the Canal Company.

It was not until 1906 that any further navigational aids were necessary. During that year, it was decided to erect two leading lights on the south side of Berkeley Pill to indicate to vessels when to turn and to lead them clear to the Entrance at Sharpness. These lights took the form of fixed white lights on timber poles, the poles and fittings being obtained from Sheperdine where the light had recently been increased in power and mounted on iron framed towers. Grant of land for the sites at Berkeley Pill was obtained from Lord Fitzhardinge. The cost of the work, including Sheperdine, amounted to £345 which was met by the Trustees.

A request from the Pilots that a buoy should be moored at Hayward Rock was the next project to be considered. The proposal that it should be a bell buoy as a safeguard in case of fog was examined but found to be too costly, and the Pilots later agreed that a spherical type buoy would be acceptable. This navigational aid came into use in 1906, but at first some difficulty was experienced with the floatage of the buoy and the moorings had to be relayed and the anchorages strengthened.

At the end of 1906 the navigational aids in operation were as follows:

- |                     |  |
|---------------------|--|
| • Shoots Channel    | Two pole beacons                                     |
| • Charston          | Revolving white light                                |
| • Redcliffe         | Fixed white light                                    |
| • Chapel            | Fixed light, white in centre, green at sides         |
| • Lyde              | Fixed light, white in centre, red at sides           |
| • Inward Rocks      | Two fixed white lights                               |
| • Counts Channel    | Pole beacon  |
| • Narlwood          | Two fixed white lights                               |
| • Sheperdine        | Two fixed white lights                               |
| • Hills Flats Rocks | Buoy   |
| • Fishhouse         | Two fixed white lights, front light having red shade |
| • Hayward Rocks     | Buoy   |
| • Conygre           | Two white fixed lights                               |
| • Bull Rocks        | Pole beacon  |
| • Berkeley Pill     | Two white fixed lights                               |
| • Northwick         | Buoyed moorings                                      |

Northwick Moorings, laid in 1892, are the subject of a separate report in Chapter 7

The efforts of the Trustees from 1891 onwards had now provided a well lighted and marked channel and it is noticeable that for the next few years no major projects are necessary, the Trustees being able to confine themselves to improvements and repairs to the existing navigational aids.

The main improvements that they were able to undertake was the replacement in 1907 of the timber structures of the front light at Inward Rocks and at the Chapel by steel framed towers, and the fitting of more powerful lights, the total cost being £329. Later, in 1910, after representations had been made by the Pilots, Redcliffe was similarly treated – a steel lattice tower replacing the wooden post and an improved type of lamp fitted. The cost of this improvement was £252.

Early in 1912, consideration was given to the erection of a light at Panthurst Pill. The object was to give incoming vessels a guide for swinging before setting course for the Entrance at Sharpness. This proposal came from the Pilots and was referred to the Canal Company as it was considered that it was in their interests only that the light should be provided. The Canal Company readily agreed to the proposal and undertook to operate and maintain the light. This new navigational aid – a single fixed white light screened on both sides – came into operation in September 1912. Grant of land was obtained from Lord Fitzhardinge.

It was not until 1915 that any further additions were made to the navigational aids. In that year it was proposed that two leading lights should be erected at Slimeroad to show the way through Slimeroad Bay, and in spite of their stringent financial position, caused by the decrease in traffic due to the War, the Trustees decided to proceed and these two white fixed lights came into operation in September 1915. The cost, evidently kept to an absolute minimum, was £75 and a grant of land was obtained from a Mrs Currie.

The War years and those succeeding was a period of rigid economy for the Trustees. The receipts from light dues were considerably depleted owing to the conditions prevailing, and the Coal Strike of 1921 also adversely affected the income. In 1921 the Trustees had been faced with considerable expenditure due to the necessity to relay the moorings at Northwick - details of this project are given in Chapter 7. Although most of these costs were met by a loan from the Canal Company, this did represent some drain on their slender resources. There is, therefore, very little to record regarding navigational aids during this period as the conditions permitted only work on essential repairs and maintenance.

By 1924 trade had improved and the Trustees were able to consider the need for improving the lighting system of the navigational aids. A Special Committee was formed to examine and report on this matter and in June 1925 the Trustees approved a scheme put forward by the Committee for the replacement of the existing oil burning equipment at Charston, Redcliffe and Berkeley Pill lights with the Aga system of dissolved acetylene lighting at a cost of £1,073. As will be realised, this was a part scheme only and was, no doubt, limited by the expenditure involved. The Canal Company was approached for assistance once more and agreed to advance £1,000 by means of a mortgage loan at 5% per annum. This conversion was immediately put in hand and in June 1926 Charston and Redcliffe became automatic white flashing lights and Narlwood and Berkeley Pill followed a few months later with similar characteristics. But in 1927, to the consternation of the Trustees, the Pilots passed the following resolution at their Annual Meeting, which was submitted to the Trustees:

“That the Pilots, after their experience of working with the new lights during the past eight months, are unanimously agreed that they are unsatisfactory and likely to cause danger and delay”.



From the mass of correspondence which ensued, it was evident that their objections referred particularly to Charston and Redcliffe lights. In an endeavour to meet the complaints of the Pilots, discussions were held with the suppliers of the equipment, the Gas Accumulator Company, and in agreement with the Pilots' representative, Charston was changed to a red flashing light. But this was still not satisfactory, the Pilots stating that the lights were not sufficiently visible in hazy weather. The next experiment was for Charston to revert to white flashing and Redcliffe to be altered to red flashing, reducing at the same time the arc of visibility at this light. But still complaints came from the Pilots and it was not until May 1928, two years after the initial installation and after the issuing of many 'Notices to Mariners', that these lights were considered satisfactory, when Redcliffe too reverted to white flashing.

Details of the navigational aids now established are as follows:

- Shoots Channel Two pole beacons
- Charston White flashing automatic lights
- Redcliffe White flashing automatic lights
- Chapel Fixed light, white at centre, green at sides
- Lyde Fixed light, white at centre, red at sides
- Slimeroad Two white fixed lights
- Inward Rocks Two fixed white lights
- Counts Channel Pole beacon
- Narlwood Two white automatic flashing lights
- Sheperdine Two fixed white lights
- Hills Flats Rocks Can shaped buoy
- Fishhouse Two fixed white lights, front light having red shade
- Hayward Rocks Can shaped buoy
- Conygre Two white fixed lights
- Bull Rocks Pole beacon
- Berkeley Pill Two white automatic flashing lights
- Northwick Buoyed moorings

Belonging to West Gloucestershire Electric Power Company

- Lydney & Berkeley Pill Red fixed lights marking submarine cable

Belonging to GW and LMS Joint Railway Company

- Lydney Pier Head White and red fixed lights
- Severn Railway Bridge Two white, one red, fixed lights marking navigation arches

Belonging to Canal Company - Sharpness

- North Pier Head White fixed light
- South Pier Head Red Fixed light

It was not until 1936 that any further large expenditure was necessary. In January of that year a report from the Honorary Engineer intimated that the timber poles at both the front and back lights at Berkeley Pill erected in 1905 would need to be renewed. Authority to proceed was given on the basis of the estimate of £300 and steel towers were erected at both lights, the work being completed in 1937. A steel tower was also erected at the back light at Slimeroad when the wooden structure became defective in 1941.

The War years curtailed the Trustees' activities and once again work was confined to bare routine maintenance and upkeep of the navigational aids. At the end of 1945, however, they were approached by the Gas Accumulator Company Ltd, the firm who supplied the apparatus for the conversion of Charston, Redcliffe, Narlwood and Berkeley Pill lights. Since the installation of this new system of lighting in 1926, the cylinders for the storage of gas had been hired from this firm, and the proposal now before the Trustees was that they should purchase some cylinders as the Gas Accumulator Company was finding difficulty, owing to the existing conditions, in meeting the requirements of the Trustees. As it was apparent that there would be an overall saving in the annual cost of upkeep of these lights by the elimination of cylinder hire charges, the Trustees sanctioned the purchase of 36 cylinders for a cost of £630.

With the easing in 1946 of the emergency conditions, the Trustees considered that it was time to explore means of improving the lighting of those navigational aids which were still oil burning. They were influenced by the fact that complaints had been received of the inadequacy of such lighting and the Chapel light in particular had been the subject of adverse reports. The poor quality of oil was, to some extent, responsible and the Petroleum Board could not guarantee any improvement in grade when approached. In addition, the increasing number of fixed lights on shore tended to be confused with navigational lights, necessitating more positive types of lighting aids for the vessels navigating in the Estuary.

A memorandum of this matter was presented to the Trustees by the Honorary Engineer in June 1946 and this pointed out that, of the 18 leading lights in the Estuary, six were converted to gas operation in 1926, and that the character of these lights was, at the same time, altered from fixed to flashing. This left twelve fixed oil operated lights to be dealt with. It was proposed that these lights be converted to the 'Londex' system which was described as electric lighting by means of a special type of batteries. By the use of this method of lighting, it was possible to obtain an unattended period of lighting of at least six months, if the lights were made to flash, and if fitted with automatic day/night switches. It was also emphasised that the Trustees could dispense with the services of one of the two lightkeepers. The saving, after allowing for the capital cost, estimated at £2,500, was estimated at £110 per annum. The Pilots, when approached regarding the proposals, stated that they would prefer the lights to be fixed rather than flashing, as this would be more helpful in hazy weather. It was pointed out, however, that to have fixed lights would mean that the batteries would not last more than three weeks, instead of six months, and would, therefore, add considerably to the cost. At the latter end of 1946 the Trustees agreed to proceed with the scheme of conversion, subject to a loan of £3,000 being obtained from the Canal Company, and this guarantee was duly obtained.

The first two lights to be converted were Lyde and Chapel and these were completed and in operation during 1947. There was some delay in the work on the other ten lights owing to the general economic situation, but eventually these remaining lights too were converted and came into operation in 1948. The total cost of the work was £3,333 and details of the alterations, with the new characteristics, are as follows:

- Chapel from white fixed with two green sectors to white flashing with two green sectors giving 12 flashes per minute
- Lyde from white fixed with two red sectors to white flashing with two red sectors giving 12 flashes per minute
- Slimeroad (2) ) each light changed from white fixed to white
- Inward Rocks (2) ) flashing, front light exhibiting one flash every four
- Sheperdine (2) ) seconds and rear light two flashes every four
- Fishhouse (2) ) seconds
- Conygre (2) )

Over the years there had been many incidents of damage to the buoys and beacons, chiefly by self-propelled or dumb barges and these are too numerous to record in this history. It will be realised that such damage caused inconsiderable inconvenience, as the work on repairs had to be dealt with promptly so that the navigational aid could be returned to station with the minimum delay. Following a collision with the Bull Beacon in 1943, a letter was received from the Chamber of Shipping regarding the possibility of providing lighting to this beacon and to the other floating navigational aids. With the past record of damage in mind, the Trustees decided to investigate this possibility and in March 1949 the Honorary engineer presented a report on the matter which was as follows:

“At present there are 18 leading lights – all flashing – four unlighted beacons and two unlighted buoys under the jurisdiction of the Trustees. These numbers omit the Panthurst Breast or Swinging light and the Northwick mooring buoy. The lights at Sharpness and Lydney Docks, the Severn Bridge lights and the submarine cable lights at Berkeley Pill and Lydney are also omitted as not being within the jurisdiction of the Trustees.

The unlighted beacons are:

Lower and Upper Shoots, marking the starboard side of the Shoots channel

Counts, marking the starboard side of the Counts channel

Bull Rock, marking the starboard side of the channel cut through the Bull Rock.

The unlighted buoys are:

Hill Flats and Hayward, marking the starboard side of the channel past these rocks.

In considering what additional lighting is desirable due regard must be given to the relative importance of the existing lights and beacons. The Lower Shoots Beacon is the first mark encountered when entering the Estuary from seawards and it marks the side of the channel through which Charston and Redcliffe lights in line, lead. The beacon is approximately two miles seawards of Charston light and is situated on the seaward corner of the English Stones. If this beacon were lighted, it would enable navigators, especially in hazy

weather, to determine their position much earlier than at present and might often make the difference between continuing the voyage to Sharpness and turning back to Avonmouth. The Upper Shoots beacon is  $\frac{3}{4}$  mile upstream from the Lower beacon and if lighted would again afford navigators greater confidence in continuing the voyage, as by the time this beacon was reached, Charston – a powerful light – would be only  $1\frac{1}{4}$  miles distant. The Counts beacon is not so important being less than  $1\frac{1}{4}$  miles from the Inward Lights, which lead through the channel it marks, and just over  $\frac{1}{2}$  mile from the back Narlwood light which here shows well to the westward and covers the beacon. The Bull beacon constitutes somewhat of a problem. It is less than  $1\frac{1}{4}$  miles from the Fishhouse lights which lead through the Bull Channel and although it is covered by a red sector from Conygre lights, it has certainly suffered more damage than any of the other beacons. This is probably due to the fact that, owing to the change of direction of the channel, vessels' helm movements must be rapid and there is little time to correct errors. It must be remarked, however, that in the great majority of cases, it is barge traffic which causes damage to the beacon. The lighting of this beacon is probably next in important to the Shoots beacons. With regard to the buoys, Hills Flats is the more important. It is two miles from Narlwood lights, which lead through the channel it marks and it not covered by any light sector. Hayward buoy is less than one mile from Conygre lights, which lead through the channel it marks and is covered by a red sector from Fishhouse lights.

Apart from the lighting of the beacons and buoys I feel that is a great need for a light, or preferably a pair of leading lights, on the cliff at Sedbury Park to give a lead through the channel from the Lyde light, past Whirls End Sand, to the line of the Slimeroad lights.

Assuming that it will be impossible to take in hand the whole of this improvement to the lighting at one time, I am of the opinion that, if it is decided to take any such steps, it should be carried out in the following order:

- 1 Lower Shoots Beacon
- 2 Upper Shoots Beacon
- 3 New lights at Sedbury Park
- 4 Hills Flats Buoy
- 5 Bull Beacon
- 6 Hayward Buoy
- 7 Counts Beacon

Character of the lights:

To comply with the International Buoyage rules, it would probably be necessary for all the beacons and buoys to carry green flashing lights, as they are all starboard hand marks. The new lights at Sedbury Park would be white flashing, if a pair, or probably red flashing if a single light, as it would be a port hand light.

Cost

It is somewhat difficult to give an estimate of the cost of these various works as they might not be carried out for some years, but the following is an indication of present day costs:

	£	
Upper Shoots Beacon	425	
Lower Shoots Beacon	425	
Sedbury Lights (2)	2500	
Hills Flat Buoy	375	
Bull Beacon	375	
Hayward Buoy	375	
Counts Beacon	375	
	—————	
	£4,850	say £5,000
	—————	

These costs were, of course, prohibitive in their entire form, but the Trustees did attempt to find the money to convert the Shoots Beacon by making application to the Canal Executive (previously the Canal Company) for a loan of £900, but it is apparent that this request was deferred and the whole scheme, therefore, remained in abeyance for the time being.

In 1951 consideration was given to the possibility of overhauling the flashers and sunvalves of the dissolved acetylene gas operated lights and an enquiry was made to the Gas Accumulator Company for an estimate of this work. This produced a figure of £300 which the Trustees considered too costly and when they informed the Gas Accumulator Company of this, it elicited the following interesting replay:

“We are in receipt of your letter of 12 September and note that it has been decided not to proceed with any of the overhauls at the present time, owing to the high cost involved, namely £300 approximately. However, we feel that this state of affairs is so attendant with risks that it is only right that we bring the following facts to your notice.

As may be seen from the attached list, none of the flashers or sunvalves (with the exception of one flasher and one sunvalve) have been overhauled since their original supply 23/26 years ago. Whilst we have isolated instances of flashers having not failed until after 31 and 32 years of continuous service, we do not feel that it is fair to the reputation for reliability which we have built up to expect mechanisms to function reliably for such long periods.

It may be of interest to know that in the case of the flasher at Narlwood Back Light the mechanism, in its 26 years of service under sunvalve control, will have produced more than 700 million flashes. It would, therefore, not be unreasonable to expect a certain amount of wear to have taken place on pivots, valve seat, etc.”

On several occasions during the past year or two, complaints had been received regarding the failure of certain lights and in June 1952 the Pilots and Masters of craft regularly using the River jointly presented a report on this matter to the Trustees. Their main complaint was directed at the failures of the leading lights and that, when in operation, they did not flash together. From the investigation that followed, it was revealed that the complaints were directed against the Londex system battery operated lights. Six pairs of lights were involved, namely: Berkeley Pill, Conygre, Fishhouse, Sheperdine, Inward Rocks and Slimeroad.

It will be noted that Berkeley Pill lights are included in this system and Lyde and Chapel are now excluded. The reason for this is that in 1951 it was decided to convert Lyde and Chapel from battery operated to dissolved acetylene gas operation and to convert Berkeley Pill lights from dissolved acetylene gas operation to battery operation, evidently to give greater efficiency to the Lyde and Chapel lights. This was achieved by the transfer of existing apparatus between the two sets of lights. In their endeavour to deal with the problem, the Trustees approached the Gas Accumulator Company with a view to converting the 12 lights to dissolved acetylene gas operation, but the quotation from this firm of £3,600 was prohibitive. They then turned to Chance-Londex, the firm who converted these lights to battery operation in 1948 and asked them to produce a scheme which would obviate the weakness of the existing system, with a provision that a five year guarantee should be given for any new apparatus supplied. Their quotation of £800 for new apparatus with a three year guarantee was eventually accepted. This scheme included for the supply of new type flashers and light switches and for the provision of one set only of flasher mechanism for each pair of lights to ensure synchronisation. Work was completed during 1953 at a total cost of £1,230. A loan was obtained from the Canal Executive for this amount and this was repaid within the next three years.

In order to operate the new synchronised flasher system, it was necessary to erect poles between each pair of lights to carry the cable and this involved, in certain instances, negotiating with the owners of land upon which the lights were sited. The outcome of these negotiations was as follows:

Sheperdine	6 poles @ 2/6d = 15/- per annum, commencing 1953. Payable to C Cullimore
Inward Rocks	Original lease of these two sites dated 1989, amounting to £2.2.0 per annum was still force and by mutual agreement, this was increased in 1955 to £3.3.0 per annum to include 5 poles. Owner E G Davis
Slimeroad	The land on which these lights were sited now belonged to the War Department and an agreement was entered into with the Secretary of State for War for a payment of 18/- per annum for 2 poles, commencing 1953.  The cable connecting these two lights also crossed a highway belonging to the Gloucestershire County Council with whom an Easement was entered into. A clause in this Easement required the Trustees to take out a Liability (Third Party) Insurance with the Fine Art and General Insurance Company, the premium being 15/- per annum.
Berkeley Pill	5 poles @ 2/- = 10/- per annum, from 1956. Correspondence suggests that an agreement would be prepared but there is no record of this having been done.

Following further representations from the Pilots and other users of the Severn Estuary regarding the necessity of lighting the moored navigational aids, it was decided early in 1956 to install a light on the Hayward Buoy. This took the form of a battery operated 'winker beacon' attached to the cone structure of the buoy. The

apparatus was supplied by Chance-Londex and come into operation in July 1956. Details were as follows:

White light with character of one quick flash per second, mounted on a 100 mm lens showing 'all round' and with a range of two miles in clear weather.

During 1956, borings were carried out by Soil Mechanics Limited in the vicinity of Bull Rock Beacon. This was in connection with a proposal to construct a Nuclear Power Station at Berkeley Pill. The contractors erected a white flashing light on the beacon for the purpose of warning Masters of craft to keep clear of the drilling operations. The work was completed in August 1956 and the light removed. Following the discontinuance of this light, strong representations were made to the Trustees, particularly from the owners of oil-carrying craft, for a permanent light to be fixed to the Bull Beacon and it was stated that when the light had been exhibited it had proved of great value to navigation generally. Coupled with this request was also a suggestion that the light on Hayward Buoy be increased in power, as the area adjacent to this buoy was notorious for misty patches when the weather was inclined to be foggy. Careful consideration was given to this proposal and an estimate was obtained for the cost of lighting Bull Beacon, which amounted to £700. But the Trustees decided to defer both this matter and the question of increasing the power of the light at Hayward until more details were available regarding the proposed construction of the Nuclear Power Station in the vicinity of these navigational aids, when the possible effects to navigation of background lighting from such a structure could be more accurately assessed.

It was early in 1957 that the Trustees were informed of the intention to construct a Nuclear Power Station at Berkeley and this is reported on separately in chapter 5. Negotiations were opened with the Central Electricity Generating Board regarding the navigational aids in the area, as it was apparent that considerable alterations and increases in power would be necessary to combat the background lighting from the shore installations. These negotiations were satisfactorily resolved by an Agreement between the two parties under which the Central Electricity Generating Board undertook to pay the costs involved in altering and improving the navigational aids and to reimburse the Trustees for any increase in the cost of maintenance and operation due to such alterations and improvements. Details of the work involved are as follows:

- Bull Beacon

Whilst the temporary and, later permanent, works were in progress all vessels were prohibited from using the channel inshore of this beacon and this led the Trustees to request that a light should be fixed to this navigational aid and later, in view of the nature of the completed works, they asked for the lighting to be permanent. This was agreed to and in 1958 a red flashing light, giving a one second flash every two seconds, operated by dissolved acetylene gas, was established on the beacon.

- Hayward Buoy

The light on this buoy was increased in power to give a white flashing light every two seconds. When the buoy was taken off station for improvements in the lighting unit, it was found to be in very poor condition. An offer by the contractors at the Power Station to supply a new buoy was accepted at a cost to the Trustees of £347. The new buoy was moored at its station and the light operating by July 1958.

At one of the periodic examinations of this buoy and its moorings early in 1960, it was found that extensive damage was being done to the timber landing skids and anchor chains and that a hole was being ground in the rocks, which were of a soft nature. It was obvious that this new buoy was too heavy and that modifications were urgently necessary. In the previous year the buoy had broken away from its moorings due to a mooring being pulled out from the rocks and some expenditure had been incurred in concreting. An approach was tentatively made to the Electricity Board for assistance in meeting the cost of this work, which was estimated at £450, and they eventually agreed to bear 50% of the cost of the modification with a maximum of £250. The work was completed and the buoy removed by August 1960.

- Fishhouse Lights

These lights were increased in power and were the first navigational aids to become electric mains operated, consisting of two 5 ft fluorescent tubes, white in colour, set vertically side by side at each light. These new lights operated from April 1960. Whilst this work was in progress, the opportunity was taken to renew the timber structure at the back light and to replace the structure at the front light with a steel lattice tower.

- Conigre Lights

These lights were increased in power and became electric mains operated with two 5 ft fluorescent tubes, violet in colour, set vertically one above the other at each light. They came into operation late in 1960. It became necessary to re-site these lights as the back light came within the perimeter of the Power Station and in the area to be used as a research laboratory. The lights were at the same time increased in height and installed on lattice towers. The alteration in the position of the front light necessitated the negotiation of a new lease for the land occupied. This was completed with the owner, Mrs C M Matthews and others, for an agreed payment of 20/- per annum.

Later, to assist pilots and other users of the estuary, a day mark was painted on the building immediately behind the back light.

- Berkeley Pill Lights

These lights retained their same characteristics – white flashing, battery operated – but were increased in power by the substitution of 18 watt lamps for 12 watt lamps. In spite of the increase in power, difficulty was experienced in picking up these lights owing to the intensity of the background lighting and in 1960, as an experiment, the white flashing character was changed to red flashing. Reports indicated that visibility was increased by this alteration.

The Central Electricity Generation Board also erected their own navigational aids to the baffle wall and water intake works. This took the form of two red lights set 5'3" apart vertically in three positions, on the eastern and western extremities and on the centre of the water intake works. In addition, an electric coded fog signal giving 2 blasts of 5 seconds duration every 30 seconds was established on the water intake works. The fog signal operated from 1958 and the lights from 1961.



It is not possible to ascertain the costs of all these alterations and additions as most of the work and material was supplied by the contractors on behalf of the Central Electricity Board. The Trustees were, of course, involved to a lesser degree in alterations to some of the apparatus and these costs were reimbursed to them by the Central Electricity Generating Board.

In spite of the extra work entailed by the Berkeley project, the Trustees succeeded during this period in installing a light on the Hills Flats Buoy. This comprised a battery operated white flashing light giving one flash every second and came into operation in November 1959. In addition, it was found possible in 1961 to replace the timber structure of the back light at Inward Rocks with a steel mast.

Before completion of the Berkeley Nuclear Power Station, negotiations had commenced regarding the construction of a further Nuclear Power Station at Oldbury on Severn. Details of this project with a summary of the Agreement are given in Chapter 5. The following details are, therefore, confined to the effect of this scheme on the navigational aids in the area, which it will be realised had much wider implications than at Berkeley. With this project, the Trustees were responsible for a great deal of the work and the supply and design of new apparatus, with the contractors confining themselves to the structural work. It is, therefore, possible in this instance to produce some figures of the individual costs incurred. The constructional work which most affected the Trustees was the building of an impounding reservoir in the river to ensure a continuous supply of water to the power station at all stages of the tide. Both Narlwood lights were affected by this and had to be re-sited and rebuilt. As was the case at Berkeley, several aids had to be increased in power owing to the mass of light emanating from the shore works. Full details of the alterations and additions to the navigational aids are as follows:

- Sheperdine Lights

Increased in power and converted to electric mains operation. Arrangements for the electrical supply were dealt with by the Central Electricity Generating Board and the remaining costs of equipment and internal wiring amounted to £170. These lights became fixed white in character and each light comprises four 2 ft fluorescent tubes mounted horizontally one above the other and they came into operation in August 1961.

- Hills Flats Buoy

Increased in power. It was necessary to obtain increased cylinder storage capacity and the existing buoy was replaced by a larger one which was constructed by C Hill & Sons Ltd, Bristol. The new lighting equipment was supplied by the Gas Accumulator Company. The new buoy was placed on station in August 1961 and retained the same character as the old buoy – one flash per second – but with increased brightness. The cost of this work was approximately £1,300.

- Counts Beacon

This beacon was replaced by a boat shaped bell and light buoy which was built by C Hill & Sons to the specification of the Gas Accumulator Company, who supplied the lighting equipment, the total cost being approximately £3,500. Details – Bell CO<sub>2</sub> operated giving one stroke every 30 seconds and dissolved acetylene gas used for

light which gives one flash every 2½ seconds. Buoy – painted black. This navigational aid came into operation in September 1961.

- Ledges Buoy

A new navigational aid to mark Narlwood Rocks and reservoir wall, established adjacent to the north wall of the reservoir. Built to same specification as Counts Buoy, at an approximate cost of £3,500 and came into operation in August 1961. Characteristics – Bell 2 strokes every 60 seconds and light group flashing (3) every ten seconds.

- Inward Rocks Light

Increased in power and converted to mains operation at an approximate cost of £1,200 and came into operation in June 1962. The back light consists of two 5 ft fixed white fluorescent tubes mounted vertically side by side and the front light consists of four 2 ft fixed white fluorescent tubes mounted horizontally one above the other. At the request of the owner of the land, the overhead supply line between the two lights, which previously went across the field, was re-routed around the perimeter of the field.

- Narlwood Lights

Re-sited and increased in power. The new steel structures were supplied and erected by the Contractors to the Electricity Board. When Rendel, Palmer & Tritton, Consulting Engineers to the Electricity Board, were designing these new beacons, the Trustees stressed the necessity of some provision to minimise damage if the beacons should be accidentally struck by a vessel. The old beacons, like those elsewhere in the river, took the form of masts supported by chain stays and unanchored at their base. If a collision occurred, the chains parted and the mast fell. Elsewhere in the river, the re-erection of a fallen beacon is not an insuperable task because it is accessible at low water. This would not be the case with the Narlwood Beacons as their bases, being in the reservoir, would be permanently inundated. The consultants solved this problem by designing the new masts on the simple principle of self-righting toy figures which are weighted at their base and thereby return to the upright position from any angle. Each mast is universally hinged at the bottom and the self-righting effect is achieved by a heavy concrete ring encircling the base. This ring is suspended by chains from the mast itself. The design is such that the mast will deflect as much as 60° from the vertical if struck by a vessel and still return to an upright position. It is thought that this is the first time that such an ingenious design has been used for a navigational beacon. New improved dissolved acetylene equipment was supplied by the Gas Accumulator Company and the Trustees' expenditure amounted to approximately £2,500. These lights came into operation in November 1964, their new characters being as follows: front light – single flash every .75 second; back light – single flash every 4 seconds. To enable access to be made to these lights, the Electricity Board agreed to provide and maintain a small motor boat for that purpose.

As was the case of Berkeley, the Electricity Board agreed to pay the costs of installing, maintaining and operating all new lights and signals, and for the alterations or replacement to the existing lights, together with any increased costs incurred by the Trustees in maintaining and operating these lights. The Trustees' costs for their

part in the installations and alterations amounted to £13,536, which was duly paid by the Electricity Board.

Another large project had been occupying the Trustees during these last few years, that of the construction of a road bridge to cross the Severn and Wye. Details of this are given in Chapter 4. It was soon apparent that similar problems regarding the obscuring of navigational aids by background lighting from this massive structure would have to be faced. Negotiations proceeded with the Ministry of Transport with the result that agreement was reached regarding the necessity for the increase in power of certain lights and for the installation of one new navigational aid. Details of the work are as follows:

- Lyde Light

Increased in power in June 1962. Character remained the same.

- Chapel Light

Increased in power in June 1962. Character remained the same.

- Slimeroad Lights

Increased in power. These lights were converted from battery operation to electric mains operation in September 1963 and consist of four 2 ft fluorescent tubes in each light mounted horizontally one above the other, showing yellow colour. These structures were within land owned by the War Department used for an Army Apprentices School and when permission was sought to do this work, it was found there was no agreement for the existing sites, the original lease having lapsed prior to the War Department becoming owners of the land. A new agreement was therefore negotiated; this document is dated 4 May 1964 and is for £2.2.0 per annum and also entitled the Trustees to connect to the War Department mains for the electric supply. The cables connecting these lights crossed a highway owned by the Gloucestershire County Council and for which an indemnity policy was in existence. This policy was amended at the Council's request to cover the increased voltage required by the conversion from battery operated to mains electric lights.

- Sedbury Light

It was necessary to erect a new navigational aid at Sedbury on the foreshore. This light came into operation in December 1962. It is electric mains operated and consists of two 5 ft fluorescent tubes mounted vertically side by side, showing blue colour. Permission to erect this light on the foreshore and to lay the cable across a field was obtained from the owner of the land, Mr A T Worsley, at no cost to the Trustees.

- Bridge – Severn

To assist navigation in the area of the bridge, red lights were fixed on the massive concrete structure and a manual fog warning system instituted during the construction. The red lights will be a permanent feature and the fog warning apparatus will be converted to an automatic electrically operated system.

- Bridge – Wye

Similarly, during the construction of the bridge over the River Wye, red lights were fixed on the structure to assist navigation and arrangements were made for these to be replaced later by permanent green flashing lights to indicate the centre of the channel.

The total costs incurred by the Trustees in providing the new navigational aid at Sedbury and increasing the power of the other lights, amounted to £3,046, which was reimbursed by the Ministry.

In September 1963 Mr F A Anstey, who had recently purchased the land upon which Redcliffe light was sited, requested a revision in the rent paid by the Trustees. The original agreement dated 1 June 1886 was for 1/- per annum which was later raised to 5/- per annum. Agreement was subsequently reached with Mr Anstey for the rent to be increased to £2.0.0 per annum from March 1964 and it was mutually agreed that this matter could rest informally with the correspondence that had ensued.

Background lighting at the Berkeley Power Station led to a complaint by the Pilots of their difficulty in picking up Berkeley Pill lights and it was decided to approach the Central Electricity Generating Board with a view to these lights being converted to electric mains operation. The Electricity Board agreed to effect this alteration and the lights became mains operated in September 1964. They each consist of four 2 ft fluorescent tubes, fixed red, mounted horizontally one above the other. The cost to the Trustees amounted to only £180, chiefly for equipment to the lighthouses, the major work of providing the electrical supply being carried out by the Electricity Board at their own cost.

A request was received early in 1964 from the Bristol Tugowners Committee for adequate lighting aids in the Shoots Channel and this was support by the Pilots and other who navigated the Severn Estuary. The Tugowners Committee pointed out that the tug 'West Winch' had recently run aground on the English Stones and it was also noted that the Lower Shoots Beacon had been damaged in collision on four occasions during the last four years. The possibility of replacing the existing beacons with buoys on the opposite side of the channel was explored by the Trustees and the following estimates were produced:

1	Two blind buoys – no lights or fog signals	£3,000
2	Two buoys with lights only, similar to Hill Flats Buoy	£4,500
3	Two buoys with lights and fog signals, similar to Ledges and Counts	£9,000

The estimate in each case was for two buoys complete with moorings. Such costs were, of course, beyond the resources of the Trustees, but as an alternative, it was decided to explore the possibility of increasing the power of Charston and Redcliffe lights, the leading lights for navigating the Shoots Channel. At the same time, it was decided that an approach should be made to Imperial Chemical Industries Limited with a view to them contributing towards the cost, owing to the proximity of their new Severnside Works and consequent interference with these lights by the background lighting emanating from this site. The cost of the work was estimated at £1,400, which included for the conversion of Redcliffe to electric mains operating lighting and for Charston to be converted from dissolved acetylene gas to battery operation.

Negotiations were opened with Imperial Chemical Industries Limited and arrangements made for their representatives to inspect the channel during the hours of darkness, so that they could see at first hand the problem that the background lighting created. These negotiations were successful with Imperial Chemical Industries agreeing to contribute £750 towards the cost of increasing the power of these lights. In December 1965, Redcliffe light became electric mains operated and consisted of eight 2 ft white fluorescent tubes mounted horizontally one above the other. Later in 1966, three of these tubes were changed to blue colour to tint the light and thus avoid confusion with other shore lights in the vicinity. Charston light was converted to battery operation in May 1966 and, to give greater efficiency, the lenses from Redcliffe were installed in this light. The character became one flash of 0.5-second duration every five seconds, showing white. Both the Bristol Tugowners Committee and the Pilots expressed satisfaction at the improvements gained in visibility by these conversions.

Early in 1965 consideration was given to the question of navigational aids for the River Wye. This followed a request from Medport Ltd, the firm responsible for a revival of trade to Chepstow. Certain financial guarantees were proposed by the Trustees which were accepted by Medport Ltd. Details of the agreement between the parties, incorporating these financial guarantees, are given in Chapter 3 on Finances. In the first instance, as an experiment, a temporary winker light was installed on the west bank of the River Wye, but this was not successful as the range did not come up to expectations. Eventually, it was decided to install a dissolved acetylene gas operated light and to use apparatus made spare by other conversions. This navigational aid, called Bulwark Light, came into operation in June 1966. Its character is a white light exhibiting 50 quick flashes every minutes. It is sited about 370 yards upstream from the northern side of the new Wye road bridge and is mounted in a red box on a red steel mast 12 ft high, the height above HWOST being 16 ft. Agreement was reached for the site of this light with the owner of the land, Mr S H Sharp, and the lease, which dates from 24 September 1965, is on an annual tenancy of £2.0.0 per annum. Subsequently, further consideration was given to the most economical way of introducing the second light to be used in conjunction with Bulwark light as a lead into the River Wye. Agreement had already been reached with the Ministry of Transport for two green lights to be placed on the new Wye Bridge over the centre of the navigable channel and it was found that these lights, sited 6 ft apart horizontally, lined up with the Bulwark light to give the required transit. The original scheme of mounting a rear light on a nearby electric pylon was, therefore, abandoned and the Bulwark light became the rear light and the green bridge lights acted as front light.

This chapter would not be complete without some reference to the Elder Brethren of Trinity House, the overriding Authority for lighthouse, buoys, beacons and other navigational aids. Under Section 652 of the Merchant Shipping Act 1894, a Local Lighthouse Authority, such as the Trustees, "shall not erect or place any lighthouse, buoy or beacon or remove or discontinue such navigational aids, or vary the character or mode of exhibiting lights without the sanction of the General Lighthouse Authority, such Authority being the Corporation of Trinity House." It has, therefore, been necessary to keep in close touch with Trinity House when it has been necessary to erect new navigational aids, or alter the character of existing aids. This has been particularly so in recent years when so much work has been necessary because of the new works alongside and over the Severn Estuary. Sanction of Trinity House has, therefore, always been obtained and their advice sought and followed when necessary. A further duty of the Elder Brethren of Trinity House, in

accordance with the Merchant Shipping Act 1894, is to carry out periodic inspection of the lighthouses, buoys and beacons. This is done triennially and the Trustees are responsible for making arrangements for these inspections. For this purpose they enlist the aid of a British Waterways tug for the journey from Avonmouth to Sharpness. A complete list of navigational aids and their functions are supplied to Trinity House prior to such inspection so that their officers can verify the position and character of each light. Their reports following these inspections are naturally of some importance and from the records it is clear that they have invariably been complimentary to the Trustees.

Finally, the following comparison gives some idea of the Trustees' achievements during the past 75 years. On 1 January 1891, the vesting date of the 1890 Act, the Trustees became responsible for 9 navigational aids previously owned and maintained by the Sharpness Lighthouse Trustees. These lights were all oil burning and required daily attendance by the lightkeepers. Today (1966) there are a total of 27 navigational aids owned and maintained by the Trustees. Panthurst light has been excluded from this total as it is maintained by British Waterways Board, and Northwick Moorings are also excluded as these moorings were laid for the sole purpose of lightening large vessels bound for Sharpness when neaped by tides. Of these 27 navigational aids, only 2 are unlit, viz Upper and Lower Shoots Beacons. These remaining 25 aids are divided as follows:

- 14 main electricity – occasional replacement of fluorescent tubes is all that is necessary
- 9 dissolved acetylene gas – period for replenishment is governed by three main factors – capacity of lights, hours of darkness and the storage space available for the gas
- 1 battery electric – the special type batteries are capable of lasting for twelve months.

Frequent routine inspections are carried out to all navigational aids by the Assistant Harbour Engineer, assisted by Lightkeeper Palmer, to ensure that the lights are functioning correctly and to make adjustments where necessary. These inspections are recorded on a special form and directed to the Honorary Engineer for his attention.

**The full list of navigational aids within and adjoining the Trustees' area of jurisdiction at December 1966 is as follows:**

Shoots Channel	2 unlit pole beacons
Charston	Battery operated light
Redcliffe	Mains operated light
Chapel Rock	Dissolved acetylene gas operated light
Lyde Rock	Dissolved acetylene gas operated light and tide gauge
Slimeroad	2 mains operated lights
Sedbury	Mains operated light
Inward Rocks	2 mains operated lights
Counts Rocks	DA gas and CO <sup>2</sup> operated light and bell buoy
Narlwood	2 dissolved acetylene gas operated beacons
Ledges Rock	DA gas and CO <sup>2</sup> operated light and bell buoy
Sheperdine	2 mains operated lights; one mains operated fog siren
Hills Flat Rock	Dissolved acetylene gas operated light on buoy
Fishhose	2 mains operated lights
Hayward Rocks	Battery operated light buoy
Conygre	2 mains operated lights
Bull Rock	DA gas operated beacon and tide gauge
Berkeley Pill	2 mains operated lights
Panthurst	Oil burning light maintained by British Waterways
Bulwark (R Wye)	Dissolved acetylene gas operated light
Northwick	Buoyed moorings

**Owned and controlled by British Waterways Board**

North Pier, Sharpness	Mains operated fog siren Mains operated white light
South Pier, Sharpness	Mains operated red light
Old Entrance, Sharpness	Mains operated fog siren

**Owned and controlled by British Transport Docks**

Lydney Docks	Manually operated gong Gas operated red and white lights
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**Owned and controlled by Central Electricity Generating Board**

Aust	Mains operated lights marking positions of towers carrying overhead cables
Berkeley Power Station	Mains operated lights on baffle wall Mains operated fog siren
Oldbury Power Station	2 beacons, markers for benefit of yachts operating in vicinity

**Owned and controlled by Ministry of Transport**

Severn Road Bridge	Mains operated lights on piers Mains operated fog siren
Wye Road Bridge	Mains operated lights on bridge, used with Bulwark lights as lead into River Wye.

## Chapter Three

### FINANCES

As with their predecessors, the Trustees encountered difficulties in fulfilling their obligations owing to the stringent financial conditions with which they were faced and the three main problems which confronted them during their early meetings in 1890/1 were:-

- 1 The financial position
- 2 A schedule of improvements to the navigational aids, including the erection of two beacons in the Shoots channel, all of which were estimated to cost £307
- 3 A report emphasising the urgency of the need for moorings at Northwick, the estimated cost being put at £2,000. (This project is reported on in detail in Chapter 7.)

It is apparent here and, in fact, throughout the following years, that the Canal Company were willing to support financially the programme of improvements and additions to the navigational aids, thus obviating the necessity for the Trustees to make application for an increase in their rates for light dues, with its possible injury to the trade of the Port. Later, owing to rising costs and increased maintenance, it was inevitable that these rates should be revised, but it is also apparent that such increases were always kept to an absolute minimum.

The Pilotage Board too, gave financial aid during these critical early days, by increasing their loan to the Trustees from £112 to £550. The purpose of this was to assist the Trustees with the costs of erecting the beacons in the Shoots and to enable the Trustees to repay a loan outstanding with the Railway Company who had discovered that they were not empowered to lend money on the terms prevailing.

Prior to this arrangement, the loans for which the Trustees became responsible from the Sharpness Lighthouse Trustees in accordance with the 1890 Act, and prior to the vesting date 1 January 1891, were as follows:

Mortgage Canal Company dated 13 January 1890	£550
Mortgage Railway Company dated 10 October 1890	£193
Mortgage Gloucester Pilotage Board dated 10 October 1890	£122

All at a rate of £4 per cent per annum.

It is not until 1905 that detailed records of the finances of the Trustees become available. The production of such details followed a request from the Board of Trade for the appointment of an Auditor and for the publication of Accounts in accordance with the requirements of the 1890 Act.

An examination of the first published Accounts for the year ending 25 March 1905 show the following position regarding mortgage bonds outstanding:

	£	s	d
No 1 Loan dated 7 April 1891	550.	0.	0.
No 2 Loan dated 20 October 1891	300.	0.	0.



No 3 Loan dated 5 April 1892	541.	15.	0.
No 4 Loan dated 6 September 1892	1800.	0.	0.
No 5 Loan dated 21 April 1896	264.	0.	0.
No 6 Loan dated 22 September 1899	200.	0.	0.
	<hr/>		
	3655.	15.	0.
Less repaid to date	- 317.	14.	7.
	<hr/>		
Outstanding at 25.3.1905	£ 3338.	0.	5.
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The income side includes the following two items:

- 1 £96 received as subsidies from represented Corporations and Bodies. These payments seem to have originated shortly after the passing of the 1890 Act and were based on a levy of £6 per member from those directly interested in the trade to the Port and the upper reaches of the Severn.
- 2 £33. 17. 7. from the Canal Company for lighting Conygre. It is not known how long this item had been paid but it does continue for some years. Conygre lights were erected in conjunction with the lowering of Bull Rocks, a project carried out at the request of the Canal Company and described in Chapter 2.

It is interesting to observe here that, although the Trustees' indebtedness by way of loan had increased, there was some improvement in their finances as they were now able to commence repayment of their debt and to meet the normal lighting and maintenance charges and to meet the costs, within reason, of alterations and improvements to navigational aids. The Canal Company still continued to advance funds, however, when the amount was such that the Trustees could not pay immediately out of income.

It was recommended at a meeting in December 1905 that the next Annual Accounts must show, in addition to the Mortgage Loans, the amounts advanced by the Canal Company for repairs to Northwick moorings, removal of Bull Rock and the costs of Narlwood Lights.

It is considered advisable, therefore, to give the loan position as published at 25 March 1906 and with rather more detail than previously:

• <b>BONDS</b>	£	s	d
No 1 Gloucester Pilotage Board 1891 4% Lighthouse Order	550	0	0
No 2 Canal Company 1891 4% Harbour Order	300	0	0
No 3 Canal Company 1892 4% Lighthouse Order	541	15	0
No 4 Canal Company 1892 4% Moorings	1800	0	0
No 5 Canal Company 1896 3% Lyde Light	264	0	0

No 6 Canal Company 1899 3% Additional Lights				200	0	0
				<hr/>		
				3655	15	0
<b>• LOANS</b>	£	s	d			
Canal Company, Repairs to Moorings	2015	5	6			
Canal Company, Removal Bull Rock	2711	5	4			
Canal Company, Narlwood Lights	<u>287</u>	<u>14</u>	<u>4</u>	5014	5	2
				<hr/>		
				8670	0	2
Less repaid to date			-	353	15	4
				<hr/>		
Outstanding at 25.3.1906				8316	4	10
				<hr/>		

For the next few years it is evident that the improvement in income is maintained and the Trustees continue to pay their way, at least with regard to the improvements and upkeep of the navigational aids. Examination of the Accounts for the year ended 25 March 1913 reveals the following debt position – a slight overall improvement to that previously shown:

<b>BONDS</b>	£	s	d	£	s	d
Nos. 1 to 6	3655	15	0			
Less repaid to date	<u>647</u>	<u>18</u>	<u>10</u>	3007	16	2
<b>LOANS (3)</b>				5195	15	4
				<hr/>		
Outstanding at 25.3.1913				8203	11	6
				<hr/> <hr/>		

The loan position shows an increase of £181.10.2 since 1906 due to a further loan obtained for repairs to Northwick moorings.

Following the outbreak of War in 1914, however, the Trustees' finances became progressively worse owing to the diminishing trade and consequent decrease in receipts from light dues. For the year ended 15 March 1916, the Accounts show an adverse balance of £179 and the Trustees, after consideration of this serious position, resolved that an approach be made to the City and County Councils for assistance to meet this deficiency in revenue. The outcome of these negotiations is recorded in a minute of a meeting held on 25 September 1916, which states that the Gloucester City Council had resolved to make a grant of £75 for the present year and a like amount for the next financial year. Also that the Gloucestershire County Council, subject to the consent of the Local Government Board, would make a grant of £25 for the same periods.

In spite of these additional grants, the Trustees showed an increased deficit in 1917 of £350.15.10 and for 1918 £592.13.1. Their receipts for light dues for these two years averaged £243 as against an average of £556 for the pre-war years. The balance due on Mortgage Bonds and Loans at this time is shown as £7,867.1.6.

To give some idea of their annual commitments, wages and salaries alone amounted to £381 per annum, made up as follows:

	£	s	d
4 Lightkeepers (2 each side of the River):			
• W Perkins	82	6	8
• A Batchford	82	6	8
• J B Batchford	82	6	8
• C Timbrell	39	0	0
Clerk – P Barrett Cooke	50	0	0
Staff – Canal Company	23	0	0
Inspector M Rowles	12	0	0
Collector of Dues, Lydney	10	0	0

This serious situation decided the Trustees to make application to the Board of Trade for permission to double the light dues for the duration of the War and for six months afterwards. It was emphasised that, even if the Trustees were successful, the expenditure would still be greater than the receipts. Their application was granted by Order of the Board of Trade dated 9 July 1918 under Regulation 39BB of the Defence of the Realm (Consolidation) Regulations 1914, and they were authorised to levy increased rates not exceeding by more than 100 per cent the rates authorised to be charged by the Sharpness Lighthouse Order 1889. It is worth noting here that this was the first occasion since 1889 that an application for increase in rates had been made.

At this time also (1918) the City and County Authorities agreed to a request from the Trustees for a continuance of the Special Subsidies payments.

But this was only temporary financial relief. By the end of 1919 the Trustees' finances became once again one of urgent consideration and the question of requesting powers to further increase the light dues was discussed, but deferred.

The City and County Authorities were prevailed upon to continue their Special Subsidies and both the Canal Company and the Railway Company agreed to double their existing contributions. The result of this is shown in the Accounts for the year ended 25 March 1920, when in addition to the normal subsidies the following receipts were shown:

Special Grant	Gloucester Corporation	£ 75
Special Grant	Glos County Council	£ 25
Special Grant	Canal Company	£ 24
Special Grant	Railway Company	<u>£ 18</u>
		£142
		====

Even with these contributions the deficit at the end of the year (March 1921) had grown to £861. In addition, the outstanding debt to the Canal Company now stood at £7,689 with every prospect of this latter item being increased considerably by the cost of renewing Northwick Moorings. An application for a further increase in light dues was, therefore, inevitable and in 1921 appropriate action was taken, formal application being made to the Ministry of Transport. This was successful and the Trustees were notified on 10 November 1921 that the Minister had issued an Order

under the Harbours, Docks and Piers (Temporary Increase of Charges) Act 1920, modifying the Trustees' statutory charges. The rates to be levied were quoted as follows:

- 1 For every vessel passing outwards or inwards...to or from any place beyond the United Kingdom...a rate not exceeding one penny per reg ton (previously one half-penny)
- 2 For every vessel passing outwards or inwards...to or from any place within the United Kingdom...a rate not exceeding one half-penny per reg ton (previously one third penny).

As this increase was granted under a Temporary Increase of Charges Act, it was necessary to apply for renewal annually. This was done until 1936 when the Pier and Harbour Order (Gloucester) Confirmation Act 1936 made these rates permanent.

In 1922, at the request of the Canal Company, a Memorandum was prepared and sealed by the Trustees acknowledging their indebtedness to the Canal Company for various amounts which were summarised as in this memorandum. The amount outstanding is recorded as £10,586. One item that disappears from the income of the Trustees, however, is the cost of lighting Conygre which had previously been paid by the Canal Company. As a result of this new arrangement, the Accounts for the following year show all the debts owing to the Canal Company as Mortgage Loans at fixed rates of interest. Previously, these were Mortgage Bonds at varying rates of interest together with Loans granted free of interest.

From 1923 there is at last a welcome increase in the revenue of the Trustees from light dues. Revival in trade coupled with the revision of their rates enabled the Trustees' income to reach £1,295 for the year ending 25 March 1924. This enabled the Trustees to turn their attention to further improvements to the navigational aids and the results of their endeavours during the next few years are recorded in Chapter 2.

Further negotiations regarding the Trustees' indebtedness to the Canal Company took place in 1926 and this culminated in a revision of the existing position by the sealing of a new Bond in December 1926, indicating the loan position as £8,710.

It is apparent that the improvement in receipts from light dues is maintained during the following years. This is confirmed on examination of the Accounts for 1931 where the income is recorded as £1,244. The Special Subsidy Grants, however, are now reduced to £27. On the expenditure side, repairs and maintenance amounted to £134 only. This, of course, excludes lighting costs and it is, therefore, obvious that the Trustees' programme of improvements to navigational aids, particularly the change to automatic lighting of some of the more important lights, is reflected in this modest expenditure.

Moving on to 1931, the Loan Account shows a balance outstanding of £9,882 to which has to be added arrears of interest of £2,188, thus making a total indebtedness of £12,070. It is of particular interest to note that the Trustees were just within the borrowing limit of £10,000 laid down by the 1890 Act (excluding interest), a position of which they were acutely aware.

A further review of the Loans outstanding was made by the Canal Company in September 1934 and, as a result, they agreed to reduce the rate of interest by 1% per annum on the outstanding amounts of the Loans bearing interest at a rate of 5%, which was greatly appreciated by the Trustees. It was evident that the Trustees were endeavouring to reduce their heavy debt to the Canal Company by regular annual payments. In the accounts for the year ended 25 March 1935, their indebtedness is shown as £7,407 compared with £9,882 at 25 March 1931. There was, however, in addition an amount of £3,537 still due for arrears of interest.

The affairs of the Trustees continued satisfactorily until the outbreak of War in 1939. Improvements had continued to the navigational aids and their finances remained on a fairly satisfactory basis. From 1939 onwards, however, the position gradually deteriorated and it was obvious, following the publishing of the Statement of Accounts for the year ended 25 March 1943, that consideration must be given to an application being made for an increase in charges and a sub-committee was formed to look into this matter. Due to the War the cost of lighting, repairs and maintenance had increased considerably and receipts were not keeping up with expenditure. The Accounts showed receipts from light dues as £1,104 and expenditure on lighting repairs and maintenance alone as £1,059. Following the report of the sub-committee it was decided to make application to the Minister of War Transport to increase the rates leviable by the Trustees by 100 per cent. This application was granted and on 21 May 1944 the Gloucester Harbour (Increase of Charges) Order 1944 empowered the Trustees to increase by an amount not exceeding 100 per cent the rates specified in the Schedule to the Gloucester Harbour Order 1936. The new rates to be levied were as follows:

- 1 For every vessel passing outwards or inwards...to or from any place beyond the United Kingdom...a rate not exceeding two pence per reg ton
- 2 For every vessel passing outwards or inwards...to or from any place within the United Kingdom...a rate not exceeding one penny per reg ton.

The Accounts for the year ended 25 March 1946 show improvement in the financial position following the granting of the increase in the rate for light dues. The actual income from the light dues – the first full year since authorisation – was £2,185 as compared with £1,104 in 1943 and it, therefore, became possible to repay £900 of the loan outstanding to the Canal Company. After this payment the balance of the loan shown as outstanding was £4,400, plus arrears of interest of £2,900, bringing the indebtedness to £7,300.

In the early part of 1947, sub-committees were formed by the Canal Company and the Trustees respectively, to investigate and report on the loan position and a joint report was presented to the Trustees at their September meeting. This set out the present position as to the indebtedness of the Trustees to the Canal Company and proposed the consolidation of all loans outstanding into one amount and for the cancellation of the existing bond dated 21 December 1926 and its replacement by a new bond on revised terms. The loan covered by the bond of 1926 was for £8,710 and this had, to date, been reduced to £4,250. The accumulated interest, however, was £2,900. In addition to this amount of £4,250, there was a subsequent loan outstanding for the conversion of 12 lights to the Londex system amounting to £3,333 (see Chapter 2) and at this time, the Trustees were also faced with the possibility of requiring financial assistance towards the cost likely to be incurred by the stranding of SS Stancliffe (see Chapter 6). The generosity of the Canal

Company was once again emphasised in this report, as it was stated that they were prepared to cancel the arrears of interest due to them amounting to £2,900 and to reduce the interest rate of 4% on the existing bonds to 3%. The Canal Company, however, was heavily involved in the latter months of the year with the prospect of the Nationalisation of Canals and Waterways and it was not until 1948 that negotiations continued, when the Canal Company had then ceased to exist as a separate entity and become vested in the British Transport Commission under the Docks and Inland Waterways Executive.

Agreement was reached, however, just prior to the Nationalisation of the Canal Company, to reduce the rate of interest on the existing loans to 3% and this was applied from 1 October 1947.

A bond was duly sealed by both parties on 7 April 1949 and the relevant details are as follows:

"Now we the GLOUCESTER HARBOUR TRUSTEES by virtue of the said Gloucester Harbour Order 1890 and all other powers enabling us in this behalf and in consideration of the said sum of Eight Thousand Five Hundred Pounds lent and advanced to us as, and for the purposes, hereinbefore recited, DO HEREBY GRANT AND ASSIGN unto the Executive acting as aforesaid their successors and assigns as from the first day of January One Thousand Nine Hundred and Forty-Nine such proportion of the tolls rates light dues or charges arising or accruing under or by virtue of the said Order, the Gloucester Harbour Order 1936 S R & O 1944 No 557 or any subsequent Order in respect of all vessels or sea-panes using the harbour mooring lights buoys beacons and other facilities provided laid down and erected by us as the said sum of Eight Thousand Five Hundred Pounds doth or shall bear to the whole sum which shall be borrowed upon the credit of the said tolls rates light dues or charges as aforesaid TO HOLD to the Executive until the said sum of Eight Thousand and Five Hundred Pounds with interest at Three per centum per annum shall be fully paid and satisfied AND WE further declare that the interest at the rate aforesaid which shall be paid by us to the Executive upon the said sum of Eight Thousand Five Hundred Pounds or the proportion of this sum for the time being outstanding shall be paid quarterly on the usual quarter days namely 25 March, 30 June, 29 September and 25 December in each year."

The amount of £8,500 outstanding at this time represented three items:

• Balance due on 1926 Bond	£4,250	0	0
• Conversion of lights to Londex system	£3,332	12	10
• Balance of costs re SS 'Stancliffe'	£ 917	7	2
	<hr/>		
	£8,500	0	0
	=====		

This Agreement was eminently satisfactory to the Trustees. It required them to pay interest annually at a reasonable rate and they were not tied by any period of time to repay the actual loan.

However, the Trustees succeeded in reducing this debt in the following years as is shown in a report submitted by the Treasurer in 1958. This report, requested by the Trustees to investigate the possibility of creating a Sinking Fund to redeem the loan, showed the balance outstanding as £6,700. It was decided to create such a fund and the Treasurer was instructed to invest a sum not exceeding £150 per annum to enable the debt to be cleared. Previously in 1957, the Treasurer was authorised to purchase £500 of 2½% Savings Bonds 1964-67 towards the same end.

In the following year the Trustees promoted a Parliamentary Order primarily to strengthen their position for the recovery of costs regarding wrecks and they took the opportunity to include in the Order a Clause for the establishment of a reserve fund. The relevant Clause in the Pier and Harbour Order (Gloucester) Confirmation Act 1959 is as follows:

“The Trustees may if they think fit for the purpose of forming and maintaining a reserve fund which fund shall be applicable to answer any deficiency at any time happening in the income of the Trustees or to meet any extraordinary claim or demand in respect of the undertaking or for payment of the cost of renewing improving or extending any part of the works forming part thereof, appropriate and set apart any amount which they think fit in any year out of the revenue received under the Gloucester Harbour Orders, 1889 to 1959, and shall deposit any such amount in some joint stock bank to be increased by accumulation of compound interest or otherwise or shall invest the same in statutory securities until required for any of the purposes aforesaid.”

Examination of the Accounts for the year ended 25 March 1960 show an income of £2,482 made up mainly of Light Dues £2,252, Subsidies and Grants £123 and “Amount in lieu of charges Northwick” £84. The Subsidies and Grants were received from the following:

British Waterways	£ 60
B T C South Wales Docks	£ 27
Gloucester Corporation	£ 24
Worcester Corporation	£ 6
Borough of Tewkesbury	£ 6

Expenditure was £2,995, which included Lighting and Maintenance £2,352, part cost of the 1959 Parliamentary Order £234 and Interest of Loan £201. This deficit of £513 followed one of £309 for the previous year. The loan position remained the same with £6,700 owing to British Waterways. Investments set aside for repayment of this loan are shown as £559.

The Trustees were once again finding difficulty in meeting their current liabilities and British Waterways, who had succeeded the Canal Company as Contractors for the lighting and maintenance work, were owed £1,000. However, at the March meeting this matter was temporarily resolved by Mr G H Hughes on behalf of British Waterways as follows:

“1 That monies collected in respect of light dues on behalf of the Gloucester Harbour Board shall be paid over, by British Waterways, in the normal manner as promptly as possible.

- 2 That work done by British Waterways on behalf of the Gloucester Harbour Board and rechargeable to them shall be invoiced in the normal manner as hitherto.
- 3 That the amounts owing to British waterways at this date, in respect of work done by them on behalf of the Gloucester Harbour Board, including charges which will be raised during the next few months, shall be allowed to accumulate as a debt owing for the time being.
- 4 That the Gloucester Harbour Board will make such payments as is possible against this debt and as soon as the outstanding claims have been settled they will effect settlement of this balance.
- 5 That no interest will be charged for this service."

Their tight financial position at this time, and for the next few years, was due to the outlay that was necessary in improving and increasing the power of the existing lights, buoys and beacons and for erecting new navigational aids, due to three major projects in the Severn Estuary described in detail in Chapters 4 and 5:

Berkeley Nuclear Power Station

Oldbury Nuclear Power Station

New Severn Road Bridge

The Trustees were, of course, eventually reimbursed their costs (approx. £17,000) by the particular Authority concerned, but meantime their slender resources were heavily taxed.

During 1962, it became necessary to give serious consideration to the administration side as well as to the financial position of the Trustees in view of the developments on the banks of the river and consequent additional lights and buoys established, and at the July 1962 meeting the following points were debated:

- 1 The necessity to appoint an Assistant Harbour Engineer.
- 2 Purchase of a suitable craft and motor vehicle; the vehicle to be of a type capable of carrying gas cylinders, tools, spares, etc.
- 3 Acceptance of (1) above would assist the Honorary Engineer in his duties, which had increased considerably over recent years.
- 4 To implement the above, additional revenue would be required which would necessitate application being made for an increase in the light dues.

These proposals were duly approved by the Trustees and application for an increase of 75% on the existing rates for light dues was presented to the Minister of Transport in August 1962. It is here worth noting that this was the first application for an increase in rates for 18 years. The following factors in support of the Trustees' application have been extracted from the supporting Statement to the Minister:



- (a) During the past few years a number of factors have brought about a very considerable increase in the number and complexity of matters which have to be dealt with by the Gloucester Harbour Trustees, and there seems no reason to suppose that this state of affairs will alter in the foreseeable future.
- (b) As a result of the activities mentioned in (a), there has been a big increase in the lighting equipment installed by the Trustees and consequent maintenance liabilities. These include:
- Light installed on Bull Rock Beacon (previously unlit)
  - Light installed on Hills Flats Buoy (previously unlit)
  - New light and bell buoy installed (Ledges)
  - New light and bell buoy installed (Counts)
  - Increase in power in Hayward Buoy
  - Increase in power in Narlwood Beacons
  - Increase in power in Lyde Lighthouse
  - Increase in power in Chapel Lighthouse
  - Increase in power in Berkeley Pill Lighthouse

NB It should be noted that each of these increases in power means that the changing of gas bottles and batteries must occur at more frequent intervals.

- (c) Two serious accidents have occurred in the Severn Estuary in the near past, each of which resulted in loss of life and were the subject of a Ministry Inquiry. In the official reports on these accidents, no blame was attached to the Trustees in any way, but in one case the Inspector thought fit to make recommendations designed to strengthen the position as a whole with regard to navigational aids.

The Trustees are, of course, anxious to ensure that the navigational aids for which they are responsible are in good order. It must be emphasised, however, that to date all the administrative and technical work in this connection has been undertaken by persons whose services are voluntary and who are not paid servants of the Trustees. The increasing volume and complexity of this work now renders this method unsatisfactory.

- (d) It is proposed, therefore, to strengthen the technical organisation by the appointment of a full-time Assistant Harbour Engineer, who would be responsible for the routine inspection, maintenance and minor repairs of all the Trustees' equipment and the clerical and planning work associated therewith.

The Trustees, at their meeting on 13 July 1962, resolved to appoint a suitable person as Assistant Engineer at a salary ranging from £850 to £1,250 per annum. They also resolved to purchase a suitable motor vehicle to enable the Assistant Harbour Engineer to carry out the necessary work.

- (e) In 1949, in order to carry out essential expenditure, the Trustees received a loan from the British Transport Commission, due for repayment 31 December 1998, of which £6,700 is still outstanding. On 26 September 1958, the Trustees resolved to create a Sinking Fund to repay this loan on the due date.

Recently, however, owing to inadequate resources, it has not been possible to make the necessary regular payments into the Sinking Fund, and it is considered essential that this position should be rectified.

- (f) A number of lighthouses and equipment owned by the Trustees are showing signs of definite deterioration, particularly those in the river, and extensive repairs will become necessary in the near future. This will involve an increased rate of maintenance expenditure over that at present.”

The Trustees' application was duly granted and under Section 6 of the Transport Charges, etc. (Miscellaneous Provision) Act 1854, Statutory Instrument 1963 No 25, The Gloucester Harbour (Revision of Charges) Order 1963 was made on 7 January 1963, the operating date for the increase being 15 January 1963.

Details of the rates chargeable by making this Order are as follows:

- 1 For every vessel passing outwards or inwards...to or from any place beyond the United Kingdom...a rate not exceeding 3½d per register ton.
- 2 For every vessel passing outwards or inwards...to or from any place in the United Kingdom...a rate not exceeding 1¾d per register ton.

A revival of trade to Chepstow commenced in 1964, and this led to a request being made for leading lights to be erected to assist in navigating the River Wye. The Trustees, mindful of their financial position, opened negotiations with Medport Limited, the firm concerned in the new trade, regarding some form of guarantee for the expenditure likely to be incurred. These negotiations eventually ended satisfactorily by an agreement being signed by both parties and the main clauses regarding the financial arrangements summarised below. Details of the navigational aids erected are given in Chapter 2.

- 1 The Trustees shall at their own initial expense:
  - (1) Carry out all work necessary for completing the installation
  - (2) Obtain all grants, leases, etc that may be required for the purpose of the installation and pay all rents, acknowledgements and other payments required
  - (3) During the continuance of this Deed carry out all work necessary for the purpose of operating, servicing and repairing the installation.
- 2 The Company shall forthwith on demand reimburse or pay to the Trustees:
  - (1) After completion of the installation all expenses incurred by the Trustees in making and completing same
  - (2) After expenditure by the Trustees the amount expended by the Trustees in repairs or replacement or renewal of the installation or any part or parts thereof, (save where such amount does not exceed Twenty Pounds for any one such matter).

- (3) Such light dues as may be incurred by the Company Provided Nevertheless that the Trustees will allow to the Company a rebate of Fifty per cent of the amount by which such light dues may exceed One Hundred Pounds in any calendar year such rebates to continue until the aggregate amount thereof shall equal the aggregate amount of the sums paid by the Company to the Trustees under sub-clauses (1) and (2) of this clause less one shilling.

3 The installation shall be and shall remain the property of the Company with the Trustees having the option to purchase the installation on the determination of the Agreement, (there being special provisions for determination).

Further consideration was given in 1964 to the repayment of the loan to British Waterways, particularly as it had been one of the factors put forward in the recent successful application to the Minister for an increase in light dues. The Treasurer, in a report on this matter, stressed the fact that a Sinking Fund had been established previously but lack of funds had prevented a successful outcome. Two methods of repayment of the loan within 50 years (1948 – 1998) were considered:

- (a) By putting aside an annual amount for investment
- (b) By taking out a capital redemption policy with an Insurance Company.

It was agreed to implement the first of these proposal and, unless otherwise resolved for any particular, to set aside annually the sum of the £100 to invest in suitable security for the redemption of the loan.

Finally, the up-to-date position of the now fully established Sinking Fund as shown in the Balance Sheet as 25 March 1966, is as follows:

1957 (Re-invested)	3% British Gas Stock 1990/95	- 406
1958	3% British Transport Stock 1978/88	- 151
1965	3% British Gas Stock 1999/95	- 202
1966	Balance at Bank, uninvested	- 160
		—————
		<u>£ 919</u>

Underlining the whole of this chapter on Finance has been the Trustees' indebtedness to the Canal Company and later British Waterways, a position arising from the necessity to keep the rate for light dues to a minimum in order to foster trade to the Port, in view of the competition from other Bristol Channel Ports. That the Trustees were sympathetic to this approach, has been amply shown in this History and great credit is due to them for their endeavours throughout the years in providing a safe, well lighted and marked channel.

## Chapter Four

### SPANNING THE SEVERN ESTUARY

#### Severn Railway Bridge

The construction of a railway bridge between Lydney and Sharpness was the first major crossing of the Severn Estuary. The passing of an Act in 1872 permitted this construction and the work was financed by a Company consisting of the Great Western Railway Company, Midland Railway Company, Severn and Wye Railway Company and the Canal Company.

The purpose of the bridge was to provide access for coal from the Forest of Dean coalfields to Sharpness for export. It was at this time that work was progressing on the extensions to the Docks at Sharpness with added facilities for handling cargo, and it was no doubt considered that such new export trade would be of great value to the Port. It was subsequently found, however, that the response was disappointing and in 1894 the Canal Company and the Severn and Wye Railway Company relinquished their interest in the Great Western and Midland Joint Railway who thus became responsible for its upkeep.

#### Proposed Severn Barrage Scheme

In March 1926 a Technical Co-ordinating Sub-Committee was set up by the Government to consider and report on the feasibility of a Severn Barrage Scheme. In conjunction with this Committee, Professor A H Gibson constructed a working model of the Severn Estuary at Manchester University to consider the many problems of the scheme. To obtain the necessary tidal information, an automatic tidal gauge was erected at Beachley with the permission of the Trustees. This gauge, on a steel tower, remained in operation until the end of 1932, it being eventually dismantled in February 1933. The following year Professor Gibson's report on his six years of experiments with the model was summarised in the report of the Sub-Committee appointed to consider the scheme. Their report proposed a Barrage sited at the English Stones and the Shoots Channel, but when published, was heavily criticised by the Ports below English Stones. The Newport Harbour Commission published a lengthy report on their objections to the Scheme; this emphasised the adverse effect it would have on the Port through silting and drew attention to the possibility of the creation of a new Harbour above the Barrage which would be a very real competitor to Newport.

The cost of the Scheme was estimated at over £50,000,000 and there is little doubt that it was eventually this financial aspect which prevented any further consideration being given to the proposal.

Proposals to harness the Severn tides date back to the early part of the last century, when there is evidence that the Government of that time appointed the celebrated engineer, Telford, to report on the possibility. A little later in 1849, a Mr Fulljames, a Gloucester surveyor, followed up Telford's ideas and produced a plan of a Barrage which included a rail track on top and a road underneath. Much later, in 1918, a firm of Consulting Engineers, Messrs Meek Addinbrook and Twinberrow, were the first to suggest a power Barrage on a site at Beachley in their report to a Water Resources Committee.

## Bridge Across the Severn

In December 1923 a conference of representatives of all parties, who might be affected by a proposal of the Great Western Railway Company to construct a railway and road bridge over the River Severn between Beachley and Aust Cliff, was called at the Shire Hall, Gloucester. Great concern was expressed as to the effect the proposed bridge might have on navigation to the Port and a General Committee was formed to watch events closely and take any action which might be necessary. It is evident that this proposal did not develop as there is no further report on the matter.

The next proposal that came to the notice of the Trustees was for the erection of a Toll Bridge from Newnham to Arlingham by the Severn Bridge Development Company and, although the site was 8 miles above the area of jurisdiction of the Trustees, the Mercantile Marine Department of the Board of Trade approached the Trustees in October 1932 for their observations. These are summarised as follows:

- The numerous piers might cause unexpected alteration to the course and direction of river.
- Such obstruction may cause silting and considerably increase the volume of water in flood in and near the City of Gloucester and elsewhere.
- Although there is no traffic at present in this part of the river, navigation should be kept open and design of bridge as submitted would prevent this.
- The scheme would necessitate the construction of a new swing bridge over the nearby Ship Canal, but this fact seems to have been overlooked.

A sub-committee was formed to watch over the Trustees' interests, but there is no record of the committee meeting or of any further development of the scheme.

In June 1935 representatives of the Trustees attended a meeting called by the Gloucestershire County Council and were informed of the intention of the Gloucestershire and Monmouthshire County Councils to jointly promote a Bill in Parliament to provide for the construction of a road bridge across the River Severn and a copy of the Bill was received later. Considerable concern was expressed by the Trustees and by all those with navigational interests, and the Trustees agreed to join forces with Canal Company and the Gloucester Pilotage Authority in a Petition against the Bill. Amongst the others who similarly petitioned were Price Walker & Company Ltd and other timber merchants, the Great Western Railway Company, the Chamber of Shipping, the Borough of Tewkesbury and the Gloucester Grain and Oil Seed Importers Association. Whilst the Trustees were regarded as the principal opponents to the Bill, the Canal Company made themselves responsible for the engagement of Counsel and eventually paid the costs, amounting to approximately £2,000.

The proposal was to construct a bridge at a site known as English Stones, 12 nautical miles below Sharpness Docks, spanning the Shoots Channel. The main objection was the restriction that would be caused to navigation with the 85 piers, including two large anchor piers, of a width of 275 feet each. The length of the bridge was given as 2½ miles and the estimated cost as £2,470,000.

During April and May 1936, a Select Committee of the House of Commons considered the Bill and on 12 May they rejected it on the grounds that the Promoters had failed to prove the Preamble. It was not necessary, therefore, for the various Petitioners against the Bill to be heard and thus, once again, the threat to span the Estuary was removed, at least for the time being.

In 1943 the Trustees were informed once again of a proposal to bridge the River Severn at a site between Aust and Beachley and during the next few years, in association with other interested bodies, they were heavily engaged in this matter. A Bill was promoted in Parliament and Sir William Halcrow was retained to advise and safeguard the navigational interests. Protective clauses were requested and accepted in the Bill. One of these required that the headway of the main span should not be less than 120 feet above high water level of ordinary spring tides at the middle of the span and 110 feet at the main piers on the sides thereof respectively nearest to the main span. At the December 1947 meeting of the Trustees, however, it was reported that the project had been deferred. A proposal to construct a new bridge over the River Wye was also received from the Ministry of War Transport in June 1944, evidently with the intention of linking up with this Severn Crossing. The site was between the Shipyards and the mouth of the river and the headroom proposed was 52 feet above high water of ordinary spring tides. The Trustees had no observations to make on the proposals as presented.

During 1958-9 extensive consultation took place with the Ministry of Transport and prospective contractors for the building of a road bridge to span the River Severn at Aust-Beachley, and it was obvious by the publication of Statutory Instrument 1959 No 1541 that a bridge was now definitive and in its planning stage. This Statutory Instrument entitled "North Almondsbury – South of Haysgate Special Road Scheme 1959" linked by a bridge, new trunk road on the Gloucestershire side with similar new roads on the Monmouthshire side and not only spanned the River Severn but the River Wye also. Satisfactory assurances were obtained from the Ministry for protection of the Trustees' interests, and the work that had been necessary in opposing previous proposed crossings, no doubt, had considerable bearing on the satisfactory results obtained in the negotiations with the Ministry. One of the Trustees' main concerns was the effect of the massive area of light likely to radiate from the bridge at nightfall during construction and when the bridge was opened to traffic. It was considered that this would create great difficulty to navigation in picking up the navigational aids in the area. Further consultations took place with the Ministry which culminated in their agreeing to meet the costs of increasing the power of certain lights and for the provision of a new navigational aid at Sedbury. Full details of the work that was necessary are given in Chapter 2, but this can be briefly summarised as follows:

- Increase in power of Lyde Light
- Increase in power of Chapel Light
- Increase in power of Slimeroad Lights
- Provision of new light on foreshore at Sedbury.

The total costs incurred by the Trustees for all these alterations and additions amounted to £3,046, all of which was reimbursed by the Ministry. This figure was very much less than estimated chiefly due to the fact that it was found possible to erect Sedbury light on the foreshore and not on the cliff as at first envisaged.

The main constructional work commenced in 1962 and the bridge was completed and opened to traffic in 1966. During this time the closest collaboration existed between the Trustees and the contractors, as there were many problems affecting navigation. All these problems were readily resolved by the contractors. Red lights were fixed to the massive concrete piers and will be a permanent feature and the existing manual fog warning siren will eventually be converted to an automatic electrically operated system.

The main features of the bridge are as follows:

- Steel suspension bridge on concrete pillars with steel towers 470 feet high
- Main span 3,240 feet and each of two side spans 1,000 feet long
- Height for navigational purposes at centre of bridge given as 120 feet above HWOST
- Width between parapets 118 feet
- Twin 24 feet carriage ways and provision for cycle tracks and footpaths
- Estimated cost £13 million.

The Wye Bridge was constructed on two concrete piers with a single span over the navigational channel and the clearance for navigational purposes is 52 feet above HWOST. As in the case of the Severn Bridge the contractors were very co-operative in matters affecting navigational interests. Temporary lights were fixed during construction and it has been arranged for permanent green flashing lights to be fitted to denote the centre of the bridge. In addition, illuminated tide gauges will be erected on the upstream and downstream sides of the west pier as an additional aid to navigation in defining the clearance available under the bridge at various states of the tide.

### **H T Cable Crossings**

The increase in the use of electricity as a source of power throughout the country inevitably led to the crossing of the Severn by H T cables. The first proposal was received early in 1923 from the West Gloucestershire Electric Power Company for laying cables across the Severn from Lydney to Berkeley Pill and the Trustees agreed to this proposal, subject to the Company indemnifying the Trustees against any claims or proceedings which might be instituted in respect of damage caused due to the presence of the cables. An agreement incorporating these guarantees was entered into with the West Gloucestershire Electric Power Company and is dated 31 August 1923. The cables were laid to the satisfaction of the Trustees' Engineer in September of the same year and red fixed lights were erected by the Company to mark the landing places of the submarine cables.

The West Gloucestershire Electric Power Company were later concerned regarding possible damage which might have been suffered to one of the submarine cables as a consequence of an anchor from a craft being caught up in the cable, the anchor being subsequently abandoned. It was obvious from the 1923 Agreement that the Trustees were not under any liability for damage so caused, but this matter was satisfactorily resolved after consultation with the Trustees by the issuing of a suitable Notice to Mariners by the West Gloucestershire Electric Power Company.

This first major crossing of the river by electric cable is now no longer in use, the Trustees having been informed in 1965 that this supply line had been abandoned a few years previously and that the lights marking the crossing had been permanently extinguished.

The next proposal came in 1930, which was to span the Severn between Aust and Beachley with a 132 KV overhead transmission line with a clearance above HWOST of 110 feet. The Trustees objected to this clearance as being inadequate and suggested 200 feet. They also enquired if the crossing could be made by submarine cable, but were informed that it was impossible to obtain a suitable cable of the required length. Agreement was subsequently reached with the Central Electricity Generating Board for this overhead crossing, but it was not until 1955 that the transmission line was completed and the Consent reference No XL.11.13 gives 135 feet as the minimum clearance. This line also crossed the River Wye and the minimum clearance over this river is given as 67 feet, the Consent reference being No XL.11.14.

In October 1935 the Board of Trade asked for the Trustees' observations on a proposal of the West Gloucestershire Electric Power Company Limited to erect an over-head electricity transmission line across the River Wye between Chepstow and Beachley and the St Pierre Pill, River Severn, the maximum clearance above the level of HWOST being 110 feet for the River Wye and 20 feet for St Pierre Pill. The Trustees did not object to the proposed clearances, but stated that as the transmission lines would pass close behind Redcliffe Light, any pylon erected on this line should either be clear of the line of the leading lights (Charston and Redcliffe) or absolutely in line with these two lights. They received the necessary assurance on this point from the West Gloucestershire Electric Power Company and assent was given in January 1936. Later, in 1964, the line over the St Pierre Pill was raised to give a clearance of 43 feet.

A proposal by the Central Electricity Generating Board to erect an overhead 400 KV cable crossing across the River Severn on a site just above the Severn Railway Bridge, was considered by the Trustees at the latter end of 1965 and, whilst the Trustees had no jurisdiction over the area of river referred to, it was agreed that in the interests of vessels using Sharpness Docks, they would associate themselves with the views already expressed by the Gloucester Pilotage Authority that the clearance for such crossing should not be less than 80 feet, it being emphasised that the Trustees were acting in an advisory capacity only. Later, following a further enquiry from the Central Electricity Generating Board, recommendations were forwarded to the Board regarding the lighting of any pylons likely to constitute a hazard to shipping.



## Chapter Five

### NEW WORKS AND OTHER INSTALLATIONS IN THE SEVERN ESTUARY

The Trustees were concerned in many developments adjacent to the Severn within their area of jurisdiction. This Chapter gives details of such installations with, in some cases, their effect upon the navigational aids.

#### **Military Firing Ranges**

Application was received in 1928 from the Gloucestershire Territorial Army Association, supported by the Board of Trade, for the use of an area of land at New Passage for the purpose of a rifle range. As it was intended to carry out firing over the sea area, the Trustees made certain observations regarding the proposals in view of the proximity of the moorings at Northwick and the possible danger to vessels moored there. It was not until 1934 that this matter was satisfactorily resolved when the Trustees agreed a draft set of Byelaws produced by the Board of Trade, entitled 'New Passage (River Severn) Ranges', which incorporated the requirements of the Trustees. Subsequently, in 1940 these Byelaws were varied to allow for the use of larger weapons and for the extension of firing times.

In May 1938, a proposal to use an area of tidal water at Oldbury Sands as a practice bombing range by the Air Council was received. Subsequently, the Trustees were informed that the Severn Fishery Board had raised objection to this area and that an alternative site had been chosen on Bedwyn Sands, Monmouthshire. The Trustees had no objection to this new site but requested certain safeguarding conditions, which included indemnity for the Trustees against any claims that might arise as a result of this practice. Towards the end of 1939, notification was received that the Board of Trade had given their consent and the necessary indemnity was received from the Air Council. Later, in 1951, permission was requested from the Trustees to exhibit warning notices at the English Stones in respect of unexploded fuses in the area. The Trustees agreed to the request subject to a formal agreement being entered into and this condition was accepted by the Ministry.

#### **Berkeley Nuclear Power Station**

The Trustees were notified early in 1957 by the Ministry of Transport of the intention to construct a nuclear power station at Berkeley and it was apparent from the preliminary discussions that the Trustees would be faced with many problems, particularly with regard to the navigational aids in the area, as the existing lighting would be quite inadequate in power and range against the background lighting of the buildings to be constructed on shore. In addition, the power station would require large quantities of cooling water and it was arranged to take this from the river by means of low level culverts and return it at a higher level. For this purpose, some construction works would be necessary in the river and in order to separate the returned warmed water from the inflow, a baffle wall was to be constructed some 600 feet off shore and approximately parallel thereto. The intake works were designed to be in front of and about the centre of the wall and the return would be behind the wall and near the upstream end. Some dredging would be necessary near the intake works and it was arranged to deposit the dredged material in the deep scoured

channel near Lydney. Following discussions with the Ministry of Transport and the consultants, Messrs Rendall Palmer and Tritton, satisfactory guarantees were obtained by the Trustees and the constructional work commenced in April 1957. Negotiations were then opened with the Central Electricity Generating Board, the body who would be responsible for the control of the power station when in operation, and it was eventually accepted on both sides that an Agreement should be drawn up which would include the requirements of the Trustees as to alterations and improvements necessary to the navigational aids and for which it was agreed that the Central Electricity Generating Board would bear the costs. These negotiations were long and protracted, but eventually an agreement, mutually satisfactory to both parties, was signed and sealed in July 1961. The main clauses of this agreement were as follows:

- “(h) All such lights marks and signals and alterations to lights marks and signals to be installed or made from time to time as may be required from time to time by Trinity House or by the Trustees with the approval of Trinity House.
- (i) The Central Electricity Authority to be responsible for the costs of installing maintaining and operating all new lights marks and signals as required as a result of the Works or any part or parts of the Works and to be responsible for the cost of all alterations to existing lights marks and signals so required as aforesaid and for the cost of maintaining and operating all such altered lights marks and signals so far as such last-mentioned costs may arise from time to time be increased as result of the Works or any part or parts of the Works.”

A very full and satisfactory indemnity was negotiated on behalf of the Trustees and included in the Agreement, and this reads as follows:

- “1 The Central Electricity Authority to accept the obligation that if at any time the Works whether permanent or temporary or any part of them or the operation of them or any of them or the dredging operations or the dumping of dredged material or any combination of the these matters shall in any way adversely affect or be detrimental to the regime of the River Severn or to navigation then the Central Electricity Authority will forthwith at their own expense take such steps as may be necessary to remedy the position.
- 2 The Central Electricity Authority fully and effectually to indemnify the Trustees against all actions proceedings claim and demands by whomsoever made and all expenses costs charges damages and liability whatsoever directly or indirectly arising in respect of the Works whether permanent or temporary or any part of them or the operation of them or any part of them or the dredging operations or the dumping of dredged material or any combination of any of these matters or in respect of the project generally Provided that no claim shall be admitted by the Trustees without the concurrence of the Central Electricity Authority and that the Central Electricity Authority shall be given the opportunity to contest claims at the expense of the Central Electricity Authority on behalf of the Trustees if the Central Electricity Authority so desire.

3 The Central Electricity Authority to reimburse the Trustees for all expenses incurred by the Trustees in connection with these proposals.”

Brief details of the alterations and additions to the navigational aids are given herewith, but more explicit details are given in Chapter 2.

- Fishinghouse Lights to be increased in power
- The light on Hayward Rock Buoy to be increased in power and a suitable characteristic provided to avoid confusion with the light on Bull Beacon.
- The lights on Conygre Pill to be increased in power and the colour changed from white to violet. Towers to be re-sited.
- A powerful light flashing red to be established on Bull Rock Beacon.
- The lights at Berkeley Pill to be increased in power
- Suitable lights to be erected to mark Baffle Wall and fog signals to be installed.

The Central Electricity Generating Board took immediate steps through their contractors to implement the requirements of the Trustees as to the alterations and improvements to the navigational aids. In the early stages the work was of necessity of a temporary character, but permanent improvements were eventually carried out and the Trustees were notified in August 1960 that the permanent improvements to Fishhouse lights, Hayward Buoy, Berkeley Pill lights and Bull Rock Beacon had been completed and requesting the Trustees to take over the equipment. Conygre lights were completed later in the same year.

Berkeley Power Station was completed early in 1963 and went into production in April of that year.

### **Oldbury Nuclear Power Station**

The Trustees were aware in 1958 of the intention to construct a further nuclear power station when arrangements were made by the Central Electricity Generating Board to erect a tide gauge on the back light at Narlwood in conjunction with a preliminary survey of the river which was being carried out in the vicinity of Oldbury. From the ensuing discussions, it was realised that the proposal that most affected the Trustees was the construction of an impounding reservoir in the river for the purpose of ensuring the supply of the full quantity of water at all stages of the tide. After exhaustive research the Central Electricity General Board decided to utilise approximately 370 acres of natural rock shelf and to excavate this areas to a general level of approximately – 1.0 ft OD Newlyn. The whole area would be surrounded by a concrete wall over 2 miles long built of prefabricated sections with a crest set at + 4.0 ft OD Newlyn. This gave a general water depth with the reservoir full of about 5 ft. The intake to the power station was, of course, from within the reservoir and two outfall conduits were constructed to take the cooling water discharge outside the reservoir wall and thus preventing any increase in the temperature of the water in the reservoir. The cross-section shape of the reservoir wall was designed so that, at each rising tide, the overtopping of the wall would exercise a scouring effect and

minimise the amount of silt liable to be deposited. Both Narlwood Beacons were affected by the proposal and would need to be re-sited and rebuilt.

As was the case with the Berkeley Power Station, it was found to be necessary to increase the power and range of other navigational aids in the area and to establish a bell buoy adjacent to the north wall of reservoir and to replace the Counts Beacon with a bell buoy. Negotiations proceeded with the Central Electricity General Board and eventually an agreement was drawn up between the two parties which was signed and sealed in August 1965. The main clauses of this Agreement are as follows:

“The Board to bear the cost of any increased frequency of reconnaissance of the navigation channel by the River Pilots considered necessary by the Trustees as result of the Works or any part or parts of the Works or of the existence or operation of the said Power Station. The Trustees nevertheless to consult the Board with regard to the frequency and duration of any such extra reconnaissance.....

The Board to be responsible for the cost of installing establishing maintaining and operating all new lights marks and signals required as result of the Works or any part or parts of the Works or the existence or operation of the said Power Station. And to be responsible for the cost of all alterations to or replacement of previously existing lights marks and signals so required as aforesaid and for the cost of maintaining and operating all such altered or replaced lights marks and signals so far as such last-mentioned cost may from time to time be increased as result of alteration or replacement or as result of the Works or any part or parts of the Works or of the existence or operation of the said Power Station. And to be responsible for reimbursing the Trustees accordingly in so far as any such cost as aforesaid shall initially be borne by the Trustees....

The Board to accept fully and effectually to indemnify the Trustees against all actions proceedings claims and demands by whomsoever made and all expenses costs charges damages and liability whatsoever directly or indirectly arising in respect of the Works or the said Power Station or any part of them or the operation of them or any part of them or any combination of any of these matters or in respect of the project generally and in particular (but without prejudice to the generality of the foregoing) to reimburse the Trustees for all expenses incurred by the Trustees in connection with the Works and the proposals for the Works and the negotiation and completion of these presents PROVIDED that the Trustees shall as soon as practicable give notice in writing to the Board of any action or claim brought made or threatened against the Trustees and shall not settle adjust or compensate the same without consent of the Board AND PROVIDED also that the Board will be given the opportunity to decide upon claims at their own expenses on behalf of the Trustees if the Board so desire.”

Brief details of the alterations and additions to the navigational aids are given herewith but again, more detailed information can be found in Chapter 2.

- The leading lights at Narlwood Rocks to be increased in power and to be re-sited on new towers. The Board to provide and maintain for the use of the Trustees’

servant, a small motor boat of a type suitable to the requirements of the Trustees to enable access to be made to the Narwood Lights from within the reservoir.

- The lights at Inward Rocks to be increased in power
- The lights at Sheperdine to be increased in power
- A buoy with automatic bell and flashing light to be established at Counts Rock
- Hills Flat Buoy to be replaced by a larger buoy increased in lighting power
- A buoy to be called Ledges Buoy with automatic bell and flashing light to be established adjacent to the north wall of the reservoir.

The Honorary Engineer, Mr R F Hutton, on behalf of the Trustees and with the co-operation of the contractors at the Power Station, designed and installed the equipment for the existing and new navigational aids and, by October 1964, all work was completed at a cost of £13,536, this amount being reimbursed to the Trustees by the Central Electricity Generating Board in accordance with the terms of the agreement.

### **Imperial Chemical Industries Ltd, Severnside Works**

The construction of a large chemical works between New Passage and Avonmouth did not directly concern the Trustees immediately. Later, however, when the works came into operation a complaint was received from the Pilots that the intensity of light emanating from the new works made it difficult to distinguish the navigational lights at Charston and Redcliffe. ICI Ltd agreed, following inspection of the river by night, that there was some loss of effectiveness of these navigational aids due to the intensity of the lighting at their works and, after negotiations, agreed to contribute £740 towards the estimated cost of £1,400 for increasing the capacity of Charston and Redcliffe lights. The improvements to these lights were finally completed in 1966.

As will be realised, the Trustees had been heavily engaged from 1957 onwards by the growth of industry along the Severn Estuary. The result, however, amply rewarded them, for many of the navigational aids have been modernised and new lights and beacons erected at very little cost to themselves. This position, however, did present one problem – that of maintenance and upkeep. This had previously been attended to by the Trustees' inspector, a member of British Waterways staff, under the supervision of the Honorary Engineer, but with the increase in the number of navigational aids it became necessary to revise the existing arrangement. This led to the appointment in May 1963, of an Assistant Harbour Engineer, Mr R K H Brice, and to the purchase of a suitable motor vehicle and motor launch for his use.

## Chapter Six

### STRANDING OF VESSELS AND OTHER INCIDENTS

The particularly difficult stretch of river over which the Trustees have jurisdiction, produced navigational problems with the inevitable stranding of vessels, sometimes with serious and even fatal consequences. This chapter is devoted to such occurrences and their implications as far as the Trustees were concerned.

#### **Ketch 'St Agnes'**

In December 1906 this vessel foundered in the fairway of the river opposite Inward Rocks. The owner gave notice that he had abandoned the wreck and, by so doing, it became the responsibility of the Trustees to remove the wreck from the navigational channel. This was achieved early in 1907 by dynamiting. A claim was made against the owner for the costs incurred, but these were never recovered, it being eventually decided that the owner of the ketch was not liable by law for the expenses so incurred by the Trustees. It was apparent that the owner of a stranded vessel, if he considered that the value of the vessel when salvaged would be less than the cost of salvage, can get out of his liabilities by abandoning his vessel, in which case it ceases to have an 'owner' and the Trustees, or any other Harbour Authority in a similar position, are left to deal with the wreck as they think fit, at their own cost. If a larger vessel were wrecked and abandoned, this could therefore have serious financial consequences for the Trustees, and that this has become a very real problem will be realised later.

#### **Whales!**

An unexpected 'arrival' in the Estuary in February 1925 was a 48-foot whale. It was sighted as far up the river as Lydney and on its return failed to negotiate the Shoots Channel and became stranded near the Pumping Station at Portskewett. Lightkeeper Batchford's report to the Trustees of this unusual occurrence was as follows:

"I expect you have heard of the Whale, a fine fish 48 feet long. The capture was made by me and grandson and two men. We hung on to her all Sunday and we lost her and found her washed ashore on Monday morning opposite Pumping Shed. We don't know what to do with her, there is so many 'shareholders'. The place is pretty lively. 40 years ago since the one at Littleton Pill."

The mention in Lightkeeper Blatchford's report of a similar occurrence was investigated and HM Customs were able to verify that in January 1885 a whale 69 feet long became stranded at the mouth of Littleton Pill on the east side of the River between Aust and Oldbury. It was secured by chains by men living in the locality and the carcase was later sold for £40.

#### **MV 'Severn Traveller', MV 'Severn Carrier' and DB 'Pioneer'**

What was to prove the worst disaster involving loss of lives occurred on 4 February 1939 when the MV 'Severn Traveller', the MV 'Severn Carrier' and the DB 'Pioneer', all laden with petroleum products, arrived off Sharpness just after 7 pm. The two motor vessels were towing the dumb barge with the 'Severn Traveller' acting as lead.

The two swung outside the Piers at Sharpness so as to be head on to the tide, which is the accepted practice when making for Sharpness entrance. Whilst swinging, the crew of the 'Severn Traveller' noticed that their tow rope was slack and then realised that it had parted from the 'Severn Carrier' and that both of the other vessels were being swept up river by the strong current towards the Severn Railway Bridge. Realising that the 'Severn Carrier' could not hold the 'Pioneer', the 'Severn Traveller' rounded up and again took tow, but all three vessels were swept up river by the strong current. The 'Pioneer' struck and fell across two of the bridge piers, while the 'Severn Carrier' struck the adjacent piers and drifted on through the bridge. The tow rope was slipped and the 'Severn Traveller' tried to get clear but was driven through the bridge over the top of the 'Pioneer', which was held down almost completely submerged by the force of the tide. The 'Severn Traveller' almost capsized, losing her propeller and wheelhouse in the contact, but eventually righted herself and drifted on to ground safely at Purton Point, where the survivors got ashore in their small boat and raised the alarm. The 'Pioneer' drifted back off Sharpness on the ebb tide where she was taken in tow by the tug 'Resolute' and brought into port. At low water, the 'Severn Carrier' was found upside down some distance out in the river at a point midway between the Railway Bridge and Sharpness Point. After her cargo was pumped out, she was righted and brought into Sharpness. Of the total crew of eight, only two survived.

### **SS 'John'**

In March 1945, the SS 'John' loaded with coal, on the way down the river became stranded on the rocks known as 'Gruggy' on the west side of the Shoots Channel and nearly abreast of the Upper Shoots Beacon. The vessel was submerged at high water with the exception of her mast and funnel. The owners, A J Smith Ltd of Bristol, notified the Trustees in April that the vessel was a total loss and that they had tendered notice of abandonment to their underwriter. The underwriters in turn notified the Trustees that they did not propose to take any steps to remove the vessel, which had become a menace to shipping, as tug masters had refused to take dumb barges down on the ebb tide when the weather was hazy because of this obstruction. Under these circumstances, the Trustees contacted the Admiralty with a view to removing the wreck by means of explosives, but it seems that the proximity of the Severn Tunnel prevented such an operation. Fortunately, however, the action of the tides eventually destroyed the wreck sufficiently to prevent it being a danger to shipping. Some costs were incurred by the Trustees in marking the wreck, but these were never recovered.

### **SS 'Stancliffe'**

On 2 April 1947 the SS 'Stancliffe', bound for Sharpness with a cargo of about 3,000 tons of logs, went aground in the estuary of the River Severn off the North Pier at the entrance to Sharpness Docks. After several attempts to refloat the vessel, the crew abandoned ship and subsequently the owners, the Stanhope Steamship Company Ltd, gave notice of abandonment to their underwriters. The wreck caused an obstruction to navigation and seriously impeded the entrance to Sharpness. It was lying in the navigational fairway and in tidal waters which were under the jurisdiction of the Trustees. This presented an immediate and serious problem to the Trustees, as the legal position appeared to be that any expenses incurred by the Trustees in the removal of the wreck could not be recovered from the owners or the underwriters

after the vessel had been abandoned, unless it could be proved that the wreck occurred through the negligence of the owners or their servants or agents.

The Trustees immediately turned to the Canal Company for financial and practical assistance. The Canal Company, with the concurrence of the Ministry of War Transport, agreed to give the guarantees required and work started immediately. Prior to the abandonment a part of the cargo was recovered, but when the Trustees became responsible, there was still 1,605 tons remaining in the ship. To add to the problems of the Trustees, the vessel had split in two about amidships during the operation of discharging the cargo from the forepart. Immediate steps were taken to repair this damage and to remove the vessel to a place of safety and I P Langford Ltd, ship repairers of Sharpness, and Messrs Metcalfe, salvage experts of Falmouth, were jointly engaged at a cost of £20,000. This operation was successful and the vessel was eventually beached above the North Pier and the remainder of the cargo was then recovered. Meanwhile, legal opinion was obtained as to the Trustees' position, for they were now faced with costs approximating £30,000. The recovery of the cost of salvage of the cargo did not present any problems as the owners, the Board of Trade (Timber Control), had given an undertaking that the Trustees would be reimbursed for any costs so incurred and for this operation £5,869 was eventually received by the Trustees. For the recovery of the remainder of the costs, Counsel's opinion was stated thus:

"The Trustees are empowered to sell and pay themselves out of the proceeds under the provisions of the Harbours Act 1847 S.56 and the Merchant Shipping Act 1894 S.S. 530-2 and also under the provisions of the Gloucester Order 1890 S.S. 13-14 ....."

Negotiations were, therefore, commenced for the sale of the vessel and eventually an offer of £20,000 was accepted. The Trustees were left with a deficit of £1,320 from the whole of these operations, which was met by a loan from the Canal Company. Appreciation was later expressed to the Chairman, Mr W H Cullis, and to Mr A C Lisle, a member representing the Canal Company, for their efforts on behalf of the Trustees, particularly in the vital negotiations for the sale which they so satisfactorily concluded.

### **MSc 'William Ashburner'**

On 1 February 1950 the Motor Schooner 'William Ashburner' whilst on passage up the river ran into thick fog and went aground on the south-west corner of Chapel Rock. The Pilot and crew were able to walk ashore. Notification was later received that the vessel had been abandoned. Subsequently, the 'William Ashburner' floated off at high tide and was sighted near Newport, returning up the river on the next flood tide and eventually grounding near Slimeroad, where it was temporarily moored. The vessel eventually came into the possession of the Chepstow and District Yachting Club for the training, it is believed, of sea cadets, but it later sank at the mouth of the River Wye where its hulk can still be discerned at low tide.

### **MB 'Safety'**

The Motor Barge 'Safety' went aground between the Fishinghouse Light and Hills Flat Buoy in December 1950 and the Trustees informed the owners, T Silvey Ltd, Bristol, that they would be held responsible for any obstruction of navigation and for



any loss, damage, or expenses arising therefrom. Fortunately, however, this craft was successfully refloated in January 1951 and taken to Bristol.

### **SS 'Ramses II'**

On 23 March 1951 the SS 'Ramses II' when proceeding to Sharpness Docks with 7,000 tons of Russian maize, grounded on a sandbank in waters under the jurisdiction of the Trustees, half-way between Sharpness and Lydney Docks. All efforts to refloat the vessel failed and the owners of the cargo immediately took steps to remove the cargo. From the date of grounding to 28 September, they were successful in salvaging 6,000 tons. During these operations, however, the 'Ramses II' broke into two parts and the Trustees were informed that the underwriters had paid a total loss claim to the owner who was domiciled in Egypt. The Trustees were thus, once again, faced with the serious problem of having a wreck within their area of jurisdiction and one which could be a very real danger to shipping, particularly to vessels bound for Lydney Docks.

It was urgently necessary to obtain legal advice and this matter was referred to the British Waterways legal adviser at headquarters for an opinion. When this was received, it intimated that the Trustees could not hold the original owners responsible for the costs of the removal of the wreck unless this was due to their servants' negligence, and the Trustees could only rely on receipts from the sale of the wreck as scrap for any reimbursements of their costs.

Port Clearance Facilities Ltd, who had been responsible for the salvage of the cargo, were then approached by the Trustees to ascertain if they would remove the wreck on these terms and they agreed subject to certain conditions. This firm did intermittent work on the wreck until March 1952, when they transferred their interests and rights to the Produce Marketing Company, who in turn assigned the removal of the wreck to the Wansford Syndicate. Work continued at a very slow pace and many difficulties arose over the next few years. One of the most troublesome was the question of lighting the wreck and many complaints were received from the owners of craft using the Port of Lydney. The agreement with the Wansford Syndicate terminated in 1955 but arrangements were made for them to continue, as there was no reasonable alternative. In 1958, however, this arrangement was terminated, although the wreck was still not reduced to the required safety level.

The Trustees thus became directly responsible for this obstruction and their first steps was to make arrangements for I P Langford Ltd of Sharpness to have a permanent light fixed until arrangements could be made to reduce the wreck to the required level. It was not until 1960, however, that this was achieved by the employment of members of the maintenance staff of British Waterways. And so, after nine years of endeavour, this major project was satisfactorily resolved.

### **Liability of Harbour Authorities**

The serious question of liability in these cases had been actively pursued during the preceding years with the Docks and Harbour Authorities' Association and the eventual outcome of these deliberations was the production by the Docks and Harbour Authorities' Association of a Model Clause for Parliamentary Orders, the effect of which was to define the owner in such cases as the owner at the time of sinking, stranding or abandoning thereof. Previously, an owner could abandon his

vessel if it suited him and the vessel then ceased to have an owner. It then became the responsibility of the Harbour Authority concerned, who became the unwilling 'owner' of what was often a heavy liability. With the new clause in operation, however, Harbour Authorities had a much better chance of recovering their costs incurred after the occurrence, beside lessening the possibility of litigation. The Trustees immediately took steps to promote the necessary Parliamentary Order and 'Pier and Harbour Order (Gloucester) Confirmation Act 1959' received Royal Assent on 29 July 1959. The clauses relating to wrecks are given in full in the summary of the Act in Chapter 1.

### **MV 'Darleydale'**

An incident of a rather different nature occurred on 4 April 1952 when the MV 'Darleydale' scraped over Hayward Rocks and sustained damage amounting to £550 in all, and J Harker Ltd, the owners of the craft, entered a claim against the Trustees for the recovery of this sum, it being alleged that the cause of the damage was due to the buoy not being on station. Haywards Buoy had, in fact, broken away from its moorings on 25 March 1952 and re-moored in position after repairs on 8 April 1952. There is no evidence that any notice was issued notifying the users of the waterway of the absence of this buoy from its station, but it is recorded that the Harbour Master at Sharpness verbally informed Pilots and other users of the river of this matter.

The Trustees resisted this claim and thereupon a writ was issued by the owners to recover the costs. A full report of this matter was presented to the Trustees at the April 1953 meeting and the following points were considered important in submitting their defence:

- 1 The provisions of the Harbour Order are permissive and not obligatory.
- 2 The vessel must have been considerably out of its normal course, as the Hayward Rock is about 350 feet distant from the centre of the channel with the leading lights (Congre) in line, which suggests faulty navigation and contributory negligence, particularly as the buoy is a 'marker' buoy only and unlighted at night and not to be used as a leading light for the purpose of steering a course.
- 3 Between 25 March 1952 and 4 April 1952, 84 loaded vessels sailed through the channel inwards and 102 vessels in ballast sailed through the channel outwards. This represents a total of 186 craft, including 3 large ships, as having navigated the channel without incident. On the particular tide in question – the pm tide of 4 April 1952, 8 other craft similar to the 'Darleydale' navigated from Avonmouth to Sharpness along the channel and docked at Sharpness with complete safety.
- 4 The Master of the 'Darleydale' had taken his vessel through on five occasions previously whilst the buoy was not on station.
- 5 The buoys placed in the Severn Estuary are placed there by the Trustees as an aid to navigation, which implies that their presence does not necessarily mean that vessels can navigate without due care and attention, but that the same precautions in navigating must be undertaken as if the buoys were not there.

The Trustees were informed later that the action had been transferred to the Admiralty Division and on the advice of their solicitors, the Trustees affirmed that the action should be contested and that the required sum of £200 be paid into court with denial of liability. In September 1954, it was reported that the Plaintiff's solicitors had by agreement taken out of court in settlement of their claim, the deposited sum of £200 and that the matter was, therefore, completed subject to payment of costs. The accounts later show that these costs amounted to £274 and this action, was therefore, concluded at a total cost to the Trustees of £474.

### **Lighter 'No 9' and Barge 'Shinfield'**

On 20 September 1958 Lighter 'No 9' in tow and loaded with logs, on passage to Lydney Docks, and owned by F A Ashmead & Sons Ltd, foundered off Berkeley Pill. The owners were informed that they would be held liable for any costs incurred by the Trustees. This craft was observed a week later drifting on the flood tide towards Sharpness, where it became wrecked off the Entrance Piers in the middle of the channel, and the Trustees were forced to take immediate steps to remove this serious obstruction to shipping. The costs incurred amounted to £750 which was claimed from the owners. It was necessary to take legal action to recover these costs and Messrs Rees & Freres Ltd were engaged to act on the Trustees' behalf. A writ was issued against F A Ashmead & Sons Ltd for the recovery of the costs, which eventually resulted in the Trustees being offered, and accepting, 90% of the total costs in settlement.

Later, on 4 November 1960 the Barge 'Shinfield' owned by the same firm, whilst in tow with the Tug 'Robert A', foundered between the Upper Shoots Beacon and Charston Rock. The barge was loaded with logs which became adrift in the river. These were eventually recovered by various means, but the craft is believed to have sunk in deep water. Notice was served on the owners of their liability to pay any costs incurred by the Trustees but, in this instance, the Trustees were not financially involved and no claim was necessary.

### **Barge 'Alma'**

Towards the end of 1958, the Barge 'Alma' broke away from its moorings and sank in the entrance to the River Wye, where it became a menace to shipping. The owner was notified of his liability to remove the obstruction, but his reply was not satisfactory. The Wye River Board expressed concern at the presence of the wreck and, following negotiations with the Board, arrangements were made for the removal of the wreck, the obstruction being successfully dispersed by means of explosives towards the end of July 1959. Following this occurrence, an investigation was ordered by the Trustees regarding their powers, if any, over the mooring of craft within their area of jurisdiction, but no satisfactory conclusion was reached.

### **MV 'Arkendale' and MV 'Wastdale H'**

Another major disaster occurred on 25 October 1960 when the MV 'Arkendale H', laden with fuel, and the MV 'Wastdale H', laden with petroleum spirit, collided. These vessels were two of several others which were making their way up river to Sharpness Docks. When reaching the neighbourhood of the Sharpness harbour, dense fog developed rapidly and the area became hazardous for navigation. Both vessels found themselves above the entrance to Sharpness and, though avoiding action was taken by the Masters, a collision occurred from which the vessels could

not be separated. Shortly afterwards, when the vessels had swung away to a south-easterly heading, a pier of the Severn Railway Bridge loomed out of the fog close to and bearing on the port quarter of the 'Wastdale H'. The 'Wastdale H' struck the pier and she then heeled over to port on her beams and caught fire, the fire spreading to the 'Arkendale H'. Both vessels became a total loss and as a result of this disaster three members of the crew of the 'Wastdale H' and two members of the crew of the 'Arkendale H' lost their lives. In addition, as a result of the impact with the bridge structure, Pier 17 and two spans collapsed and Piers 16 and 18 were damaged.

This disaster did not occur within waters under the jurisdiction of the Trustees and they were not, therefore, directly implicated, but they held a watching brief at the subsequent Court of Enquiry convened by the Minister of Transport. The findings of the Court were as follows:

"This disaster, occurring as it did without any fault in navigation for which either master can be blamed, discloses a situation which clearly requires most urgent attention. The general increase over the past few years of traffic using the harbour of Sharpness, including craft carrying highly inflammable cargo, has created greater hazards, more particularly in the event of an unexpected reduction in visibility.

No detail methods of improving conditions are recommended in this Report, as these must be worked out by those having long experience of the locality. In the opinion of the Court, however, the evidence disclosed that most careful consideration should be given by all concerned to general matters:- first the establishment of the best possible system of regular communication between Sharpness and various positions down-river so as to obviate as far as possible the arrival of traffic in the approaches to the harbour in bad visibility; and secondly, to all practicable possibilities of communication between the harbour and craft which had not been prevented from being in the vicinity of the harbour in bad visibility, and to all aids to navigation which could usefully be provided to assist such craft.

The Court desires to emphasise that it views with grave concern the conditions disclosed by the evidence, which led to this disastrous casualty, and which, if allowed to persist, may well cause others of equal gravity. The Court recommends that all concerned in the administration of the harbour and approaches thereto should consider it a matter of joint responsibility to examine the whole situation in detail with a view to improving existing conditions. The application of all practicable improvements should be treated as a matter of urgency.

Subsequently, as a result of this report, several meetings were held by the interested parties with a view to deciding the best means of implementing the findings of the Court of Enquiry and the proposals are summarised hereunder:-

- 1 Improvement of the present arrangements to notify Captains of deteriorating weather conditions in the neighbourhood of Sharpness. Suggestion of visual signals at Avonmouth and up river near Aust.
- 2 Provision of VHF Radio Telephone set at Sharpness to keep in close contact with craft in the vicinity of Sharpness and whilst on passage up the estuary.

- 3 Provision of Radar equipment on the vessels navigating.
- 4 Additional sound signal near Sharpness Old Entrance for use in time of fog and mechanisation of existing fog signal at Sheperdine.
- 5 Erection of tide gauges at certain points in the estuary.
- 6 Facilities for life saving in the area. It was agreed, however, that in view of the nature of the estuary and tidal conditions, this would not be feasible.
- 7 As the last survey of the river was carried out during 1926/7, it was suggested that representations should be made to the Admiralty for a fresh survey."

Taking these proposals in the above order:

The provision of RT/VHF Radio Communication set at Sharpness was the responsibility of British Waterways who immediately contacted the GPO Radio Services for advice. Ultimately, on 11 July 1963 the Trustees, on behalf of British Waterways, were able to issue a Notice to Mariners that a VHF Radio Telephone Station had been established at Sharpness and that Channel 2 (Operational) and Channel 16 (Calling and Safety) had been allocated to this station. The owners of vessels were, therefore, expected to avail themselves of this service by ensuring that their craft had suitable equipment aboard for establishing radio contact with Sharpness. Difficulty was experienced, however, in the operation of this station owing to the fact that Channel 2 was normally used for inland waters and the sea-going vessels using the Port of Sharpness were not so equipped. Following lengthy discussions with the GPO, they eventually allotted Channel 14 as the Operational Channel to replace Channel 2. This change operated from 15 March 1965.

It was also the responsibility of British Waterways to establish a sound signal near the Sharpness Old Entrance, and this additional aid to navigation in times of fog came into operation on 7 May 1963, when an electrically operated siren, giving one blast of 2 seconds duration followed by 3 seconds silence, was installed on the south side of the Old Entrance to Sharpness.

The mechanisation of the fog bell at Sheperdine was the responsibility of the Trustees. This fog warning was tolled by hand by Lightkeeper Palmer when conditions warranted it. Conversion to electrical operation was put in hand and from 6 December 1963 this navigational aid, a bell with a characteristic of approximately 26 strokes per minute, could be switched on immediately there were signs of fog developing in the area.

The Trustees were also required to make available suitable tide gauges in the Estuary to give craft first-hand information of the flow of tide and on 14 December 1962 gauges were installed at Lyde, one on the structure of the Lyde Lighthouse and one on the rock face in front of and below the base platform of the light. It is also intended to fit a gauge on the front Beacon at Narlwood.

Lastly, the Hydrographer of the Navy instituted a survey of the Estuary from Avonmouth to Sharpness so that up-to-date information could be available of any changes that may have occurred in the Channel since the last survey in 1926/7. HM

Survey Ship Shackleton arrived early in 1962 and work was completed in June of the same year. The new charts became available in 1966.

### **MV 'BP Explorer'**

On 16 February 1961 a further disaster occurred in the river causing loss of life. On the pm tide of that date the MV 'BP Explorer', whilst on passage up river to Sharpness, capsized and the crew of five were drowned. This vessel laden, with 437 tons of motor spirit, proceeded without event until she reached the leading lights at Inward Rocks. She was seen by a reliable witness to have made the turn necessary to take her through the Counts Channel and appeared to be following the normal course for such a vessel in the tidal conditions then prevailing. Shortly afterwards, however, the same witness looking again in the direction in which he had last seen the lights of the 'BP Explorer', could see nothing of her. The vessel was not seen again until about 8.20 pm on the same evening, when she was observed from the lower pierhead at Lydney floating in an upturned condition in the strong flood tide. The bodies of the crew were found at various times and places subsequent to 16 February.

A Court of Enquiry was ordered and was held on 7 and 8 November 1961. In the report published of this Enquiry the findings are given as follows:-

“The Court having carefully inquired into the circumstances attending the above-mentioned shipping casualty, finds for the reasons stated in the Annexe hereto, that the said casualty was caused by the vessel touching ground in such a manner and at such a speed as to produce an immediate reduction in positive stability and make her vulnerable to tidal forces, the precise magnitude and significance of which are impossible to determine.”

The Annexe to the report goes into much technical detail but does not attach blame to anyone. The final paragraphs are, however, quoted hereunder as being of interest to the Trustees:-

“The casualty at present under investigation has no significant feature in common with another recent casualty arising out of a collision between two tanker barges off Sharpness, and it would be wholly wrong for the public to entertain any idea that the navigation of the Severn is unacceptably hazardous. It is a river on which navigation requires good judgement and common sense based upon experience, and none but experienced persons ought to attempt to navigate it...”

The Court is disinclined to make any positive recommendations arising out of this casualty, but would suggest that consideration be given to the establishment by Parliament of a new authority somewhat after the fashion of the new authority at Milford Haven to control the navigation of the Severn beyond the limits of the ports of Bristol and Newport so that all questions of lighting and buoys and the giving of directions by harbour masters and the like may be co-ordinated and made the responsibility of a unitary body.”

The Trustees requested clarification of the recommendation contained in this last paragraph, and in reply the Ministry drew particular attention to the fact that there was a small area of the Severn Estuary between the limits of the Trustees and those

of the Port of Bristol which were not under the control of any Harbour Authority. Eventually, at the request of the Ministry, the area was added to the Trustees' existing area of jurisdiction by means of a Parliamentary Order – Pier and Harbour Order (Gloucester Harbour) Confirmation Act 1963. A full report leading to the promotion of this Order is given in Chapter 1.

In conclusion, it must be emphasised that the foregoing incidents do not represent a complete record of such events. The chapter has been confined to those incidents in which the Trustees were either directly involved or were of particular interest to them as a Harbour Authority.

However, with the recent introduction of new navigational aids and improvements to the existing ones, as described in Chapter 2, it is anticipated that the risk of further incidents of this nature will be reduced.

## Chapter Seven

### NORTHWICK MOORINGS

As far back as 1883, concern had been expressed by the Canal Company at the fact that large vessels were being regularly delayed on neap tides at Kingroad. This meant that, in some cases, these vessels had to be lightened at Kingroad – to the advantage of the Port of Bristol – or await suitable tides with consequential delay and some injury to the Port. A survey of the river between Kingroad and Sharpness was taken with a view to obtaining a suitable anchorage for these large vessels within easy access of Sharpness and it was found that Northwick Oaze had sufficient depth of water for such vessels to be afloat at low water. It was discovered, however, that a large area of the Oaze was within the boundaries of the Port of Bristol. Negotiations with this Port to bring the area within the Trustees' jurisdiction were successful and, in the Trustees' application in 1890 to become a Harbour Authority, their limits of jurisdiction were varied to include this additional area. In addition, a clause was incorporated to enable the Trustees to lay down anchorages and moorings for the protection and safety and for lightening vessels with power to raise mooring charges. Pier and Harbour Orders Confirmation (No 3 ) Act 1890, passed 5 July 1890, includes the above provisions.

With these new powers, steps were soon taken to implement the request of the Canal Company and at a meeting on 2 December 1891, it was resolved that the moorings should be laid at Northwick Oaze, in accordance with tender and plan submitted by Brown Lennox & Co Ltd, and that a mortgage be entered into with the Canal Company for a loan of £1,800, repayment to be made from the income received from mooring charges. It was also agreed that the Canal Company should act as their agents in collecting such charges. This was in line with the arrangements already existing for the collection of light dues.

The moorings were laid and completed by September 1892 and were immediately successfully used for lightening vessels bound for Sharpness. However, there was some reaction by shipowners to the levying of charges for this service and a special committee was formed to consider this urgent matter. It was realised that, although this service was of great advantage to the Port, it was obvious that the shipowners had grounds for objecting to the charge for this facility. This was an occasion when the Trustees could not expect the Canal Company to materially assist, as the loan received from them for this work was tied for repayment to the income from the moorings, so an approach was made to the Gloucester Corporation on the grounds that the Trustees had contributed over the years to the prosperity of Gloucester as the most inland Port, by their endeavours to keep a safe channel in the estuary and establish moorings for lightening vessels at Northwick. This request to the Corporation was for pecuniary assistance to enable the moorings to be free to any vessel requiring the use of them, thereby fostering the trade of the Port to the ultimate advantage of the City of Gloucester. The Corporation eventually agreed to make a contribution on the following terms:

“That the contribution from the Corporation of Gloucester of £83.15.10d, being one year's instalment of principal and interest towards repayment of the amount borrowed by the Harbour Board to defray the cost of laying down such moorings, on condition that such moorings are, during the year ending



March 1894, kept available for the use of any vessels requiring the use of the same without any charge.”

During 1905-6 the moorings were relaid and new anchors supplied. This was the first major work at Northwick since the moorings were laid in 1892. The total cost of this work amounted to £2,015 and was met by a loan from the Canal Company.

On 26 July 1919, the SS 'Athenie', whilst being lightened, carried away Northwick Buoy. The Trustees were, therefore, faced with considerable expenditure in recovering the moorings and replacing the buoy. Brown Lennox & Co Ltd, the original contractors for the laying of these moorings, were approached to submit a scheme for this work at the urgent request of the Canal Company, who had emphasised the necessity for this facility to the Port being reinstated at the earliest possible opportunity. The moorings were redesigned and completely relaid with a new type clump mooring anchor and a heavy sinker under the pendant chain. The whole of the work was completed by August 1920 at a cost of £2,895 and once again, this expenditure was met by a loan from the Canal Company. There is no evidence that there was any payment made by the Trustees to the owners of the ship concerned, which sustained some damage by this accident.

Observations taken by theodolite in August 1936, indicated that the moorings had moved about 30 fathoms to the south-east. It was apparent from the subsequent lifting and examination of the moorings that it was due to insufficient weight of the ground chains which, originally on the light side, had been considerably reduced by much wear. The actual weight of the ground chains laid down in 1892 was 10½ tons and it was estimated that this was now reduced to 6½ tons. Immediate steps were taken to remedy this and two lengths, 15 fathoms each, and two lengths 10 fathoms each, of 3¾” and 2⅞” stud link cable, were purchased and fitted and the moorings relaid. The weight of the ground chains then became 15¼ tons, as compared with 10½ tons as originally laid. The estimated cost of this work was given as £860.

During 1944 a detailed survey of the Severn Estuary was made in conjunction with the proposed Severn Crossing and the Admiralty vessels employed on this work used the moorings for long periods. It was therefore decided that in such exceptional circumstances, the Trustees should request payment for this facility. The request was successful after some negotiation, with the Trustees receiving from the Admiralty the sum of £325.

On 7 August 1945, the SS 'Agra Marina' loaded with grain, proceeded to Northwick to be lightened. Almost as soon as the vessel was moored the buoy carried away from the pendant chain and left the vessel adrift, fortunately with no serious results. This led to a thorough examination of the buoy and moorings and the report presented to the Trustees by Mr E Perry, Honorary Engineer, stressed the unsuitability of the existing buoy for mooring large vessels. The report stated that:

“The buoy is constructed with a heavy steel bar through the centre, to the lower end of which the pendant chain is attached by means of a swivel fastened to the bar by a nut which is secured by a cotter pin passing through the nut and bar. The upper end of the bar terminates in a large ring to which vessels moor by means of their anchor cable. It will be seen, therefore, that the buoy itself forms an integral part of the mooring when a vessel is attached and all the strain set up by the weight of the ship and the set of the tide is transferred through the buoy. In consequence, extremely heavy leverage

stresses are produced, which on numerous occasions have caused the buoy to leak, and on this occasion caused a failure which might have had serious results. The type of buoy adopted by the Admiralty for similar duty is a cylindrical buoy with a tube passing through the centre. Through this tube the pendant chain is passed and when the mooring is not in use the buoy merely supports the weight of the chain. When a vessel is moored its anchor cable is attached direct to the pendant chain, all the stresses set up being transmitted direct to the ground chains and anchors, and as the pendant chain is free to move up or down through the tube, no stress whatever comes on the buoy. It will be recalled that in recent years the whole of the ground and pendant chains have been renewed, and it is apparent that now the only weak point of the moorings is the buoy.”

This matters was considered at the October meeting of the Trustees when it was resolved that the buoy should be replaced by the Admiralty type at an approximate cost of £300.

In 1953, arrangements were made with the Admiralty to relay the moorings. The Honorary Engineer had reported in September 1950 that the buoy had moved outwards and downwards for about 100 feet, and this had made the moorings unsuitable for the use of vessels intending to lighten their cargo en route for Sharpness. The Trustees authorised this work to be done, but the Honorary Engineer had been unable to arrange with local labour or with contractors in the area. Operations commenced in October 1953 and when the moorings were lifted it was found that the pendant chain was in bad condition and would need to be renewed, the cost being £377. A new chain was obtained by the end of November and the relaying completed on 4 December 1953. The total cost of this work was £2,707. Financial assistance to meet this cost was obtained from the Docks and Inland Waterways Executive, who had taken over the responsibilities of the Canal Company when the Waterways were Nationalised. The Trustees succeeded in clearing the debt by 1956.

The use of this facility has declined during recent years, due to the decrease in grain imports into Sharpness. In addition, the size of vessels using the Port has diminished, thus obviating the necessity to lighten at Northwick on neap tides.

As will be realised, the moorings have been maintained at considerable expense to the Trustees and, to conclude, it is perhaps appropriate to give a summary of the main costs of laying the moorings and subsequent maintenance:

		£
• 1891	Original cost	1,800
• 1905-6	Relaying and new anchors	2,015
• 1913	Repairs	182
• 1920	Moorings redesigned and relayed	2,895
• 1936	Renewal of ground chains	860
• 1945	New buoy	300
• 1953	Renewing and relaying moorings	<u>2,700</u>
		<u>10,752</u>

## Chapter Eight

### OFFICERS AND STAFF

#### CHAIRMAN

1890 – 1917	R G FOSTER Esq JP – Canal Company nominee and a director of the Company. Previously Chairman of the Sharpness Lighthouse Trustees
1917 – 1930	SIR JAMES BRUTON MP – Canal Company nominee and a director of the Company
1930 – 1939	W P CULLIS Esq JP – Canal Company nominee and a director of that Company
1939 – 1942	COL J H COLLET CMG DL JP – Canal Company nominee and a director of that Company
1942 – 1948	W H CULLIS Esq JP – Canal Company nominee and a director of that Company
1948 – 1950	G CADBURY Esq – Nominee of Docks and Inland Waterways Executive. A member of the Executive's Board of Management
1950 – 1953	A C LISLE Esq OBE – nominee of the Docks and Inland Waterways Executive. Divisional Manager SW Division
1953 – 1954	W H CULLIS Esq JP – Mr Cullis agreed to act as Chairman pending the appointment of a successor to Mr A C Lisle who had moved to another Division
1954 to date	F G B CLAYTON Esq BSc MICE – Nominee of British Waterways. Regional Engineer, Southern Region.

#### HONORARY ENGINEER

1890 – 1913	G W KEELING Esq – Canal Company nominee. Consulting Engineer to that Company and Engineer to the Severn and Wye Railway Company, Lydney. Acted in similar capacity for Gloucester Pilotage Board and Sharpness Lighthouse Trustees. Responsible for introducing all navigational aids to date
1913 – 1941	A J CULLIS Esq – Canal Company nominee and Engineer to that Company
1941 – 1956	E PERRY Esq MBE – Canal Company nominee and Engineer to that Company
1956 – 1960	J K SHAW Esq – British Waterways nominee and Engineering Assistant to that Authority

1960 – 1961	R B DAVENPORT Esq AMICE – British Waterways nominee and Maintenance Engineer to that Authority
1961 to date	LT COM R F HATTON RN (Retired) AMIMechE – British Waterways nominee and Maintenance Engineer to that Authority

### **CLERK TO THE TRUSTEES**

1890 – 1906	MR PHILIP COOKE, Solicitor – Held similar post with Sharpness Lighthouse Trustees
1906 – 1930	MR P BARRETT COOKE, Solicitor – Son to the above
1940 – 1954	MR W H H LANGLEY SMITH, Solicitor
1955 – 1957	MR R N PEPPER, Solicitor
1958 to date	MR W A STONE – Chief Clerk to the Divisional Engineer, British Waterways. Retired from British Waterways in 1961 but continued as Clerk to the Trustees

### **TREASURER**

1890 – 1917	CAPT D FARRANT RN – Nominee of the Canal Company. He was the first Treasurer to be appointed and he was followed by MR H WADDY, Secretary to the Canal Company
1917 – 1933	MR E MANNING LEWIS – Secretary to the Canal Company
1933 – 1942	MR A C LISLE – Secretary to the Canal Company
1942 – 1962	MR A E CONNOLLY – Accountant to the Canal Company and later British Waterways. Retired from British Waterways in 1957 but continued as Treasurer to the Trustees
1962 – 1965	MR F A ABBEY – Principal of the firm of F A Abbey & Co, Accountants
1965 to date	MR V G MUNDY – Accountant, retired from the firm of Duart Smith, Bake & Price Ltd.

### **LIGHTKEEPERS**

Local casual labour was employed during the winter months from 1886 by the Gloucester Pilotage Board to light the few navigational aids that were then in existence. In 1889, however, when the Sharpness Lighthouse Trustees came into being, a request from the Canal Company that each lighthouse be lit all the year found was agreed to and three lightkeepers were employed, one for the east side of the river and two for the west side. The Gloucester Harbour Trustees, therefore, when taking over the responsibilities of their predecessors, took on to their payroll these three lightkeepers under the following conditions:

- 1 W PERKINS be employed as from 1 January 1891, at a salary of 20/- a week, to light Sheperdine, Hayward and Conygre Lights, living in Sheperdine in a house rented by the Trustees for that purpose (east side of river).
- 2 F MILLS be employed as from 1 January 1891, at a salary of 25/- per week, to light the Mathern (Redcliffe), Charston and Chapel Lights and look after the same and sleep at the foot of the post at Mathern where a hut had been erected for him (west side of river),
- 3 B PERRY be employed as from 1 January 1891, at a yearly payment of £14.0.0, to light the lamp at Inward Rock (west side of river).

The necessity for the employment of additional labour, due to the increase in the number of navigational aids, became necessary in the immediate years to follow, but later on the Trustees were able to dispense with most of these services when automatic lighting and mains operated lighting was introduced. Details of lightkeepers and their service are as follows:

### **East Side**

- 1891 - 1926 W PERKINS – Previously employed by Sharpness Lighthouse Trustees. Lived in a cottage at Sheperdine called "Whitehouse". The Trustees still retain this tenancy for the present lightkeeper P Palmer. W Perkins' service extended over 37 years.
- 1926 - 1931 J G PERKINS – Succeeded his father W Perkins, but the after-effects of an accident at work caused his retirement in 1931
- 1931 to date P G PALMER – Formerly Canal Company employee and had previously tended the lights on a part-time basis whilst employed by the Canal Company. It had been necessary to employ additional labour on the east side after Narlwood and Berkeley Pill Lights were installed. C Timbrell, also a Canal Company employee, was the first part-time employee and he was succeeded in 1923 by P G Palmer. In 1926, automatic lighting was introduced to certain lights and this enabled part-time labour to be dispensed with.

### **West Side**

- 1891 -1898 F MILLS – Previously employed by Gloucester Pilotage Board (casual) and from 1889 by Sharpness Lighthouse Trustees
- 1891 - 1896 B PERRY – Previously employed by Sharpness Lighthouse Trustees, part-time
- 1896 - 1926 A BATCHFORD – Replaced B Perry. Eventually became lightkeeper for Charston and Redcliffe Lights. Cottage at Blackrock rented by Trustees for his use. He retired at the age of 74 when automatic equipment was installed in these two lights.
- 1898 - 1942 J BATCHFORD – Son of the above. Appointed to replace F Mills when further navigational aids were installed and eventually took charge of Inward Rocks, Chapel, Lyde and Slimeroad Lights. From 1907 house

was rented by the Trustees near ferryslip at Beachley for his use. Complete 44 years' service when he retired through illness in 1942.

1942 - 1946 A BATCHFORD Jnr – Son of J Bachford. Succeeded his father and became tenant of the house at Beachley. Taken ill 1946 and died suddenly.

1946 - 1948 W A STOKES – Became lightkeeper on the death of A Batchford Jnr. His services were dispensed with in 1948 following further conversions of lights to automatic and mains operation. He was allowed rented occupation of the house at Beachley until termination of the lease in 1952.

## **LIGHTS INSPECTOR**

With the exception of the initial appointment, Inspectors came from the Canal Company and later British Waterways and they were paid a small retaining fee. Their duties were the periodic examination of all navigational aids and the supervision of repairs and replenishments to the satisfaction of the Honorary Engineer.

The labour for this work was drawn from the staff of the Canal Company up to 1948 and is now supplied by British Waterways.

1891 - 1912 T SCHOLLES – Charge hand employed by Severn and Wye Railway Company, Lydney. Acted in similar capacity for Gloucester Pilotage Board and Sharpness Lighthouse Trustees. Taken ill whilst inspecting lights and died following day.

1912 - 1928 M ROWLES – Maintenance Foreman for Canal Company

1928 - 1934 E FRYER – Maintenance Fitter for Canal Company

1934 - 1956 B C ILES – Electrician for British Waterways

1959 – 1963 F CARPENTER – Charge hand for British Waterways.

## **ASSISTANT HARBOUR ENGINEER**

1963 to date R K H BRICE – With the increase in lighting equipment and the installation of additional navigational aids, it became necessary to create this new post on a part-time basis to assist the Hon engineer in the administrative and technical work. From this date the post of Lights Inspector was abolished.