

# HEARINGS

BEFORE

COMMITTEE ON NAVAL AFFAIRS OF THE  
HOUSE OF REPRESENTATIVES

ON

ESTIMATES SUBMITTED BY THE  
SECRETARY OF THE NAVY

1919

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SIXTY-FIFTH CONGRESS

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[No. 9.]

**COMMITTEE ON NAVAL AFFAIRS,  
HOUSE OF REPRESENTATIVES,  
Washington, D. C., Thursday, December 12, 1918.**

The committee met at 1.30 o'clock p. m., pursuant to adjournment on Tuesday, December 10, 1918, Hon. Lemuel P. Padgett (the chairman) presiding.

The CHAIRMAN. Gentlemen, the committee will come to order.

I had requested that members of the General Board of the Navy should appear before the committee for the purpose of laying before the committee such suggestions as they might see fit to offer along the lines of the policy and purpose of the General Board, and its recommendations; also to enable the committee to propound such questions to the General Board relating to the general subject of the Navy as the members might deem proper.

Admiral Badger, chairman of the executive committee of the General Board, and Admirals Fletcher and Winterhalter, members of the board, are here in response to the invitation which I sent.

Mr. BUTLER. Who is the chairman of the board?

Admiral BADGER. Admiral Benson is the senior member, but no president has been selected since Admiral Dewey died.

**STATEMENT BY REAR ADMIRAL CHARLES J. BADGER, ACCOMPANIED BY REAR ADMIRAL FRANK F. FLETCHER AND REAR ADMIRAL ALBERT G. WINTERHALTER, OF THE GENERAL BOARD OF THE NAVY.**

The CHAIRMAN. Admiral Badger, the committee would be glad to receive such suggestions from you, in your own behalf and representing the General Board, as you might see proper to submit. I understand that you have some prepared statement that you wanted to submit first, as a general outline, and you may do so before we will proceed to propound any questions.

Gentlemen of the committee, I think it would be well to allow the admiral to proceed in an orderly and consecutive way to lay before the committee his plans, policies, and suggestions, and then we can take them up and discuss them; otherwise, to break in, we get everything disjointed very much.

Admiral BADGER. I had prepared this memorandum to cover the points that I had in mind, and I will read it until you stop me.  
[Reading:]

POLICY.

On July 30, 1915, the General Board, in compliance with an oral order of the Secretary of the Navy to express its opinion as to a policy which should govern the development of the Navy, submitted the following:

"The Navy of the United States should ultimately be equal to the most powerful maintained by any other nation of the world. It should be gradually increased to this point by such a rate of development year by year as may be permitted by the facilities of the country, but the limit above defined should be attained not later than 1925."

Subsequently the President of the United States indorsed such a policy when he is reported to have said, in the course of a speech at St. Louis, that the United States "should ultimately possess incomparably the most adequate navy in the world."

Since 1915 the General Board has uniformly had this policy in mind when making its annual recommendation for new naval construction. Doubtless a similar policy obtained in the General Board when in about 1905 the construction of 48 battleships was recommended.

The United States is building a great merchant marine. At last it seems about to compete for a fair share of the carrying trade of the world. The duty of a navy is not only to guard against invasion, but also to protect the nation's sea-borne commerce and keep the trade routes open to our shipping. Sea power will always remain a factor of vast importance in international relations.

The General Board believes that under present world conditions and the conditions likely to obtain in the future, the United States Navy should steadily continue to increase.

Navy must be the principal support of a league of nations, and the United States, from its wealth, influence and power, will be called upon to contribute a very large share of the international police force to render such a league effective.

The great naval lesson of the war has been that the nation possessing the most powerful navy was able in a few weeks to drive the German merchant flag from the seas and to keep open her own trade routes. And yet, when the war commenced, Germany possessed the second best navy in the world. The second best navy proved to be not good enough. The blockade which she was not able to break was the greatest contributing cause of her ultimate collapse.

#### THREE-YEAR PROGRAM.

A long step in advance was made when, by the act of August 29, 1916, the so-called three-year building program was adopted, providing for, 10 battleships, 6 battle cruisers, 10 scout cruisers, 9 fleet submarines, 50 destroyers, 58 coast submarines, 3 fuel (oil) ships, 1 repair ship, 1 transport, 1 hospital ship, 2 destroyer tenders, 1 fleet submarine tender, 2 ammunition ships, and 2 gunboats.

A lump sum of \$5,000,000 for aircraft was also recommended. Of this program, battleships 49-54, battle cruisers 1-6, scout cruisers 7 and 8, nine fleet submarines, two destroyer tenders and one fleet submarine tender have not yet been commenced. The Navy appropriation bill for the fiscal year ending June 30, 1919, provides that the construction of all these vessels shall be begun prior to the end of the fiscal year 1919.

#### WAR CONSTRUCTION.

When the present war commenced, the necessity for the construction of destroyers, submarines, submarine chasers, mine sweepers, and sea-going tugs, together with the great program of merchant ship construction inaugurated to meet the enemy destruction of merchant vessels by submarines, caused a stoppage of all purely naval construction of large size. Because of the allied possession of preponderating power in battleships and vessels of the cruiser types, this could be done with safety; but had we been fighting the war alone, the lack of ships of these types would have been serious, if not fatal.

In its letter No. 420-2, November 9, 1915, the General Board said:

"A navy in firm control of the sea from the outbreak of war is the prime essential to the defense of a country situated as is the United States, bordering upon two great oceans. A Navy strong enough only to defend our coasts from actual invasion will not suffice. Defense from invasion is not the only function of the Navy. It must protect our sea-borne commerce and drive that of the enemy from the sea. The best way to accomplish all of these objects is to find and defeat the hostile fleet or any of its detachments at a distance from our coast sufficiently great to prevent interruption of our normal course of national life. The current war has shown that a navy of the size recommended by this board in previous years can no longer be considered adequate to the defensive needs of the United States. Our present Navy is not sufficient to give due weight to the diplomatic remonstrances of the United States in peace nor to enforce its policies in war."

In 1916 and 1917, the General Board, in view of the demand upon the building facilities of the country for merchant ship construction and the considerable number of authorized battleships not yet commenced, confined its recommendations largely to the building of vessels for the scouting and patrol lines, destroyers, submarines, and antisubmarine craft, though it always accentuated the necessity of making provision for the future in battleships. These constitute the naval power back of the advanced lines upon which all the other vessels must eventually depend.

In General Board No. 420-2 (serial No. 867), September 10, 1918, building program for 1920, recommended that a large building program be adopted in order that by 1925 the policy enunciated in 1915 might be assured, and the Navy of the United States would be, so far as the future could be seen, equal to the most powerful maintained by any other nation of the world. This was in effect a six-year building program, and included—

Battleships.....	12
Battle cruisers.....	16
Scouts.....	30
Destroyers.....	108
Submarines:	
Fleet.....	21
S type.....	146
Antisubmarine.....	24
Mine laying.....	42
Mine sweepers.....	284
Destroyer tenders.....	12
Submarine tenders.....	6
Airplane carriers.....	6
Patrol vessels.....	376
Aircraft:	
Large seaplanes.....	1,704
Dirigibles.....	156
Kite balloons.....	544
Rigid airships.....	24

In commenting upon this program, the General Board said:

"Owing to the enormous expansion of our shipbuilding industry, the country will never again be in as favorable a position to carry out the large naval program that will render us reasonably secure for the future. It is therefore of the utmost consequence that as the demand for merchant ships lessens the training and experience of the hundreds of thousands of shipyard workmen be employed in Navy work. Otherwise, there will be disorganization and dissipation of a large part of the art and practice of shipbuilding. The diversion of the existing talent into other activities will rob the Nation of an asset laboriously acquired, which can be preserved to us by turning it without intermission into the construction of naval vessels.

"The General Board recommends that as fast as an existing shipyard is released from contracts for merchant ship construction, it be employed in the upbuilding of the Navy according to its policy. In this manner we have assurance that 1925 will see us fully prepared in all essential material particulars."

The 1920 building program was recommended before it was known to what desperate straits Germany had been reduced. Under present conditions this program may well be modified in some of its provisions and the proposition of the Secretary of the Navy in his recent hearing before this committee recommending a virtual duplication of the building program adopted in the act of August 29, 1916—the three-year program—would appear to meet immediate necessities.

#### BATTLE CRUISERS.

The 1920 building program adds 16 battle cruisers to the 6 already authorized; making a total by 1925 of 22. Great Britain has now 13 of these vessels built or building, and it is estimated that if she continues building on the annual average in the last 20 years, she will have 19 or 20 battle cruisers in 1925.

As in all other types of naval ships, the battle cruiser must be provided because other navies have them. Type must meet type. The battle cruiser is in reality a glorified scout. She must have high speed and cruising endurance, that she may overtake and bring to battle enemy vessels of similar type and also that she may be employed in scouting, in protecting our own sea transportation routes, or in raiding the enemy's routes. She must be heavily armed in order that she may successfully fight enemy vessels of similar type and also that she may be able to fight for information and break through an enemy screen or successfully support our own protective screen of lighter vessels formed to detect the approach of the enemy and guard the main body from surprise.

By her size, speed, and armament, the battle cruiser is well able to perform other combatant services. She may aid the battleship line in a general action by taking up a favorable torpedo position (possible through her great speed) where her own heavy guns will also be effective.

The effectiveness of battle cruisers was well illustrated in the battles of the Falkland Islands and the North Sea (Jutland).

One of the greatest anxieties of the United States after entering the war, when our troops in great numbers were crossing the Atlantic, was that one or more of the German battle cruisers might get on the transport route and sink great numbers of the crowded transports. We had nothing of sufficient speed and power to overtake or even to chase away such a vessel. The damage possible by submarines under the conditions obtaining was small compared with the possibilities for havoc should a battle cruiser appear on the trans-Atlantic route.

#### FAST BATTLESHIPS.

Class for class, our battleships compare favorably in power with those of any other nation. Nos. 49-54, soon to be laid down, are designed for a displacement of 43,000 tons, 23 knots speed, a main battery of twelve 16-inch guns, and are heavily armored. They will be the most powerful vessels now building or, so far as is known, projected in the world.

For future capital ship construction, however, there are advocates of a so-called fast battleship which shall combine the qualities of the battleship (dreadnaught) and the battle cruiser.

The General Board, after long and close study of this question, is of the opinion that it would be unwise to attempt at this time the construction of such combination ships which would have a displacement of at least 54,500 tons as against the 43,000-ton battleship, less armor protection, and a speed of 29 knots as against the proposed 35 knots for the battle cruiser. The cost of the battleship of the 49-54 class is estimated at \$27,121,365 complete, and of the fast battleship at \$36,876,125.

The reasons for not adopting the fast battleship, as summarized by the General Board, are as follows:

1. Merging two types, each of which is needed, into one failing to answer fully the requirements of either, on account of—
2. Loss of speed as battle cruiser, and
3. Loss of protection as battleship.
4. Will introduce new elements into fleet maneuvering and tactics, being
5. More disturbing to homogeneity, without compensating advantages to the fleet as a whole.
6. Represents a radical departure from the gradual increases hitherto prevalent in battleship construction, and therefore
7. Would demand a rebuilding of the fleet, similarly to the introduction of the dreadnaught. This necessity the General Board is not prepared to admit.
8. It is unnecessarily large and therefore inordinately expensive, considered either as a battleship or battle cruiser, for meeting the like type of a possible enemy.
9. Will take a longer time for design and construction than the General Board type of either battleship or battle cruiser.

(See G. B. No. 420-6, serial No. 844, July 6, 1918.)

#### SCOUT CRUISERS.

The 1920 building program provides for 30 scouts in addition to the 10 authorized by the act of August 29, 1916 (3 years' building program), making 40 in all.

Great Britain has 31 cruisers of the first class and 89 light cruisers, most of them of high speed, a total of 120. A scout is an information seeking and patrol vessel. This type forms the most efficient screen for the main fleet; to gather information; to prevent surprise and to guard against the approach of torpedo craft. They are, so to speak, the cavalry of the fleet. Their uses in naval operations are innumerable. They take the place of the frigates for which Nelson was always calling.

Our fleet has always been lamentably short in scouting and screening vessels. It is hardly too much to say that except for the 10 scouts just begun we have none. We have had to have recourse to our destroyers, which besides not being well fitted to the work of screening vessels have other important duties to perform.

#### DESTROYERS.

The 1920 program provides for 108 destroyers. There are now built or building 330 and 12 not yet ordered, a total of 342. The total in 1925 would, therefore, be 450. Great Britain has in destroyers and destroyer leaders, built or building, approximately 516.

A careful study of the Navy's requirements leads the General Board to believe that the number mentioned, 450, will be sufficient, so far as can now be foreseen. The importance of the destroyer type and the need for large numbers of them have been amply demonstrated in the war.

## SUBMARINES.

The 1920 building program provides for the following submarines in addition to those now building or authorized:

Fleet.....	21
S type.....	146
Antisubmarine.....	24
Mine laying.....	42

There are now built, building, or authorized a total of 169 coast submarines and 12 fleet submarines: 65 of the authorized coast submarines are of the S type, about 800 tons. Many of the earlier types of boats are obsolete and others, as shown by the experience of the war, unable to properly perform the service required of them.

The General Board estimates that a total of 294 S type boats are required for the Navy, including 120 boats for the patrol of the Atlantic, 84 for the Pacific, and 90 for a mobile force to act at a distance from bases, allow for those under repair, etc.

As the older type boats become inefficient they should be replaced by the S type. The General Board recommends that of the 146 eventually required, 75 be authorized now (revised estimate).

Twelve fleet submarines have been authorized, but work has only been done on three of them. The General Board estimated that 33 such vessels are needed for the fleet of 1925. In view of present conditions the General Board does not recommend any new construction of fleet submarines in the pending bill. Mine-laying submarines, of which we now have none, have been found during the war to be of great use. We should possess some of this type, that we may familiarize ourselves with their construction and manipulation tactically and otherwise. The construction of a small number, say 10, as pilot vessels of the type, should be commenced at once.

The antisubmarine submarine, of which 24 were recommended, was in response to an apparent demand for vessels of this type as a result of war experience. They were, however, more for use in the North Sea and adjacent waters should the war continue than for general service, and this type should be held in abeyance for the present so far as our Navy is concerned.

The British Navy has now, built or building, 222 submarines, of which about 75 are of large or fleet type, varying from 1,160 tons (the size of our 3-AA) to about 2,650 tons surface displacement.

## MINE SWEEPERS.

This is a new type for our Navy. Prior to the war we had none, though a few Navy tugs and destroyers were fitted with sweeping apparatus. When the necessity arose, we acquired by purchase or charter a large number of vessels, mainly fishermen of various kinds, and put them into use both at home and abroad. But these vessels are not well adapted to the work and the experience of the war has demonstrated the great need for specially designed craft for this special duty. There is reason to believe that Great Britain alone had employed in mine sweeping more than 1,000 mine-sweeping vessels.

We have now, built or building, 54 mine sweepers. It is in this class of small vessels we are most deficient and the General Board recommended 284 for the 1920 program. Under present conditions this estimate may be greatly modified, but development and construction of this type should be steadily proceeded with, especially because of our great length of coast line and the numerous harbors and channels to be kept clear of mines. The General Board believes that 10 of these vessels should be incorporated in the 1920 program.

## PATROL VESSELS.

Until the development of submarines during the present war as commerce destroyers and mine layers the necessity for medium sized, speedy, specially designed patrol vessels and mine sweepers in large numbers was not realized by anyone. It was the case of a new weapon put to an entirely new and unexpected use.

When the United States entered the war it became urgently necessary to improvise such a patrol and mine-sweeping force. Yachts, small motor boats, fishing craft, etc., were purchased in large numbers at great expense. Very few possessed any military value and practically all were unfitted for the duties they were called upon to perform.

In this emergency the Navy Department adopted the design and contracted for 356 so-called submarine chasers, of which 50 have been delivered to the French Government, and 50 more (Nos. 357 to 406 inclusive) are under construction for that Government.

These boats were 110 feet long, 15½ feet beam, gas engines, "emergency" speed 18 knots, one 6-pounder, displacement (loaded) about 75 tons.

Later on contract for 100 patrol boats (Eagle boats) was awarded the Ford Motor Co., Detroit, Mich. These vessels are 200 feet long, 25-foot 6-inch beam, 7-foot 3-inch draft, steam turbine, oil fuel, estimated speed, 18 knots.

As regards both these types the General Board stated as follows:

"The General Board, however, wishes to make it clear that as in the case of the 110-foot chaser it regards the 200-foot boat (Ford) of the design submitted as an emergency design and not one which should be adopted if time and the submarine situation were not of such seriousness."

Looking to the increasing size, power, and cruising endurance of submarines and having in view the possession by the United States of able patrol craft for the future, the General Board recommended (G. B. No. 420-14, serial No. 853, July 17, 1918) for future construction, patrol boats of the following characteristics: Length 250 feet, displacement about 700 tons, speed 25 knots, cruising radius 4,000 knots at 10 knots; armament, two 5-inch rapid-fire, one 3-inch antiaircraft, one "Y" bomb projector and depth bombs. The department disapproved the construction of any boats of this type for the present.

In this connection it is of interest to know that Great Britain on October 1, 1918, had 3,383 antisubmarine craft of all types operating in the Atlantic and 569 in the Mediterranean. The total of such for all the allies in the Atlantic and Mediterranean was 5,556.

#### AIRPLANE CARRIER.

The airplane carrier is a development of the present war. The development of aircraft, both heavier and lighter than air, has been very great. Aircraft will in future play an important part in all scouting operations of the fleet.

The General Board is convinced that fleet engagements will in future be preceded by operations in the air. It is therefore necessary that facilities be provided our fleet to carry on such operations.

In a letter dated January 21, 1917, Admiral Beatty, commander in chief of the British Grand Fleet, said that according to latest information the Germans have 6 seaplane carriers and that in fleet operations they appear to be working seaplanes in conjunction with Zeppelins (rigid airships). He further remarks that "Every effort should be made to develop the use of naval aircraft for fleet purposes in every possible respect."

"In March, 1918, the British had 11 such vessels in service, the *Compania* of 18,000 tons being the largest. To these have been added the *Argus*, *Furious*, and *Eagle*, and perhaps a few others. The *Argus* is, so far as our information goes, the first ship specially built as a seaplane carrier. The *Furious* was adapted from the battle cruiser of that name and the *Eagle* from a ship building for the Chilean Government at the outbreak of the war, the *Almirante Cochrane*."

The General Board has proposed tentative characteristics for a ship of this type for our Navy, and has recommended its development by the Department. In the 1920 program the inclusion of six ships of this type was recommended. This number, again, may safely be modified, but we should proceed with the construction of, say, two of these vessels for work with the fleet.

#### AIRCRAFT.

The development of air-craft patrol of waters adjacent to the belligerent countries has been very great, particularly in antisubmarine operations. The United States has established numerous air-craft stations both at home and abroad.

The General Board has recommended that aircraft stations be built and equipped to cover our whole continental coasts, both Atlantic and Pacific, and also the coasts of our island possessions, this air patrol to be operated in conjunction with surface and subsurface patrol, for which the General Board has worked out a plan in detail.

#### RIGID AIRSHIPS.

The rigid airship has demonstrated its value. Of these we have none. The General Board believes that our Navy should possess aircraft of this character and has recommended the purchase abroad of two rigid airships of the latest pattern and the construction in this country as soon as practicable of two more in order that the necessary experience in the construction and handling of these craft may be had.

It is understood that the British decided (before the close of the war) to keep 16 rigid airships in commission. She has now 9 built and 4 building or authorized. The French have adopted the rigid as part of their naval program, and are now constructing one to be followed by 11 others. Italy has so far confined her airship construction

to semirigids. Designs for a rigid type are in hand, but the difficulty of obtaining material has so far prevented construction.

Germany is reported to have had a fleet of 50 rigid dirigibles with the necessary manufacturing facilities to turn out an airship every two or three weeks.

For the 1920 building program the General Board recommended 24 rigids. Under present conditions the General Board revises its recommendation to the construction of two in this country and the purchase of two of the latest type abroad.

#### HEAVIER-THAN-AIR MACHINES.

Statistics as to the number of heavier-than-air machines in foreign navies are extremely difficult to obtain, and the General Board has not been able to gather any very reliable data on the subject.

It is further complicated by the fact that in some foreign countries Army and Navy aviation services have been combined, and it is impossible to accurately determine what provision has been made for the special needs in land and sea machines.

This may be said, however, that the General Board has had numerous hearings on the subject of combining Army and Navy Aviation Corps and the consensus of opinion is strongly in favor of keeping them separate. The work of the land machines and those designed for over-water employment and the wide difference necessary in the training of operating forces of the two types render it difficult if not impossible, to efficiently combine and administer the two.

#### *Aviation personnel, Nov. 25, 1918.*

	At home	Abroad.
Pilots.....	831	825
Officers exclusive of pilots.....	940	409
Student officers.....	3,912	.....
Enlisted men.....	16,783	18,879

On November 25, 1918, the Navy had active contracts for a total of 1,796 heavier-than-air machines of the HS-1 and HS-2, H-16 and F-5, and DH-4, of which 1,299 had been delivered. Five hundred and fifteen of those delivered were either abroad at our naval aviation bases or on the way. There were also 1,151 school seaplanes, of which 1,005 had been delivered and 282 wrecked.

There were 31 small, nonrigid dirigibles under contract, of which 17 had been delivered.

Of kite balloons 332 had been contracted for and 314 delivered.

#### NAVY PERSONNEL.

H. R. 10854, Public, No. 182, Sixty-fifth Congress, approved July 1, 1918, provided the following personnel for the Navy, not including Naval Reserves, to the number of which, during the war, there appears to have been no congressional limit:

	Permanent.	Temporary.
Enlisted men.....	131,485	181,485
Apprentice seamen.....	6,000	24,000
Trade schools.....	.....	14,000
Flying Corps.....	350	10,000
Total.....	137,835	229,485
Enlisted men:		
Marine Corps.....	17,400	75,500
Hospital Corps.....	5,720	14,718
Grand total.....	160,950	319,703

The Bureau of Navigation in a detailed statement of the needs of the Navy personnel, based upon plans by the Office of the Chief of Naval Operations involving the elimina-



tion of all craft in use temporarily for the war, gives the personnel needs for March 1, 1919, as follows:

Enlisted men, including aviation, training, and instruction schools, etc.....	182, 435
The same for July 1, 1920.....	218, 483
For overseas transportation service, transports, and cargo (Reserves).....	133, 914
	<hr/>
	352, 397
3½ per cent of 218,483, additional for Hospital Corps.....	7, 647
	<hr/>
Grand total.....	360, 044

## OFFICERS.

December 1, 1918, there were in the Navy the following officers:

Regular, permanent, commissioned:

Line.....	2, 554
Staff.....	1, 604

On the basis of 137,485 enlisted men in the regular establishment there should be 5,499 commissioned line officers, or a shortage of 2,945 line officers. There is a corresponding shortage in the regular, permanent commissioned officers of the Staff Corps.

December 1, 1918, there were in the Navy:

Temporary commissioned officers of the—

Line.....	2, 247
Staff.....	994

December 1, 1918, there were in the Navy reserves, commissioned, line and staff, 20,530 (U. S. N. R. F.). The grand total of regular, temporary, and reserve commissioned officers, line and staff, being 28,929.

Mr. BUTLER. I understood you to say, Admiral Badger, that the allies had some 5,500 antisubmarine craft operating in the Atlantic, the Mediterranean, and in other European waters. Can you give us the number of U-boats which Germany was using?

Admiral BADGER. On August 1, 1918, the estimated number of German submarines was as follows: Total number built, 331; number sunk, 158; number available, 173. These 173 were divided, 26 school boats, 147 operating at sea. Of the 147 operating, 28 were in the Mediterranean and 119 in the Atlantic.

I can give you the estimated Austrian submarines, too, if you wish.

Mr. BUTLER. I wish you would.

Admiral BADGER. As to the Austrian submarines: Number built, 35; number obsolete, 10; number sunk, 7; number available, 18. All of the Austrian submarines were operating in the Mediterranean, and adding the German submarines operating in the Mediterranean, 28, makes a total of 46 in those waters.

Mr. OLIVER. And how many antisubmarine craft did the allies, including the United States, have?

Admiral BADGER. Five thousand five hundred and fifty-six.

The CHAIRMAN. Admiral, that is a very comprehensive and at the same time elucidating detail statement which you have just read.

Now, gentlemen of the committee, if any of you wish to ask any questions I am sure the admiral will be glad to respond.

Mr. BUTLER. Is that largely the report of the General Board?

Admiral BADGER. It is not the report of the General Board that was submitted to the Secretary of the Navy some time ago. That report has not been published.

The CHAIRMAN. I might explain that a copy of that report has been submitted to the committee for its information. There are certain