

Organization and Functions of War Planning Section,
Fleet Maintenance Division, Office, Naval Operations.

by
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Colonel Miles and officers of The Army Industrial College -

I have not a prepared speech. I am going to make a few remarks, and I hope that I may be able to paint for you a picture of the organization and function of the War Planning Section, Fleet Maintenance Division, Office of Naval Operations.

Last week you heard a lecture given to you by Admiral Richardson on the "Organization of the Navy Department" and that was followed by a lecture by Admiral Conard on the "Organization and Functions of the Bureau of Supplies and Accounts." This morning I will carry you one step further and show you in what manner the lectures given last week hook up with the procurement planning in the Navy Department.

I wish to invite your attention to the lines on this Navy Department chart on the board. This is the Navy Department organization chart and you can see by these lines from the Chief of Naval Operations, in whose office the War Procurement Planning Section is located, that he only has administrative control of the bureaus. Here are the bureaus and these lines show the coordination work affecting efficiency for war, but insofar as the Naval districts are concerned he has military control. If we put the entire Naval establishment on this chart we would have out here the fleet under the command of the Commander in Chief, and there would be

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a line coming from the Chief of Naval Operations over to the C. and C. Please keep that picture in mind because it is the Chief of Naval Operations that is endeavoring to so coordinate these bureaus that the fleet will be efficient.

I think you are all familiar with this chart of the Chief of Naval Operations. Here is the Fleet Maintenance Division, and it is in this division that the War Procurement Planning Section is located. As regards the duties of the Fleet Maintenance Division, the Commander in Chief prepares the peace-time operating schedule. The Chief of Naval Operations is responsible for the upkeep and efficiency of the fleet. It is the duty of the Fleet Maintenance Division to coordinate the efforts of the material bureaus to enable the fleet to be kept ready and regulate the availability of vessels in the navy yards, the repairs and operations to meet the operating schedule prepared by the Commander in Chief. The operating schedule prepared by the Commander in Chief has to be kept going, and the Fleet Maintenance Division so regulates the bureaus in making repairs to these ships that that operating schedule will not be broken. Frequently conferences with the Ship Movements Division and with the Shore Establishments Division are necessary. The Shore Establishments Division has all the labor and administration of the navy yards.

As regards the general duties of the War Procurement Planning Section, I will read them to you right from the Navy Department organization pamphlet.

"It prepares Fleet Maintenance Division war plans, coordinates the various parts of the material war plans prepared by the procurement and production agencies of the Naval service establishment, coordinates the procurement of material for the

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operative and military needs of the Navy in emergency, cooperates with the Army in the preparation of the material procurement war plans of the Army and Navy, and in the formulation and current maintenance of pertinent plans and policies as in the opinion of the two departments should be adopted by the government for the proper national effort in an emergency."

I will take up each one of these as I go along and discuss them. In general, in order that you may get a proper picture of the duties I am discussing this morning, the War Procurement Planning Section corresponds first with G-4 of the Army's General Staff; secondly, it corresponds with the Office of The Assistant Secretary of War insofar as procurement planning is concerned. In order to give you a clear picture of the war planning duties I want to give you a brief picture of the duties of the Chief of Naval Operations in regard to war planning, and I will read the regulations:

"The Chief of Naval Operations shall, under the direction of the Secretary of the Navy, be charged with the operations of the fleet and with the preparation and readiness of plans for its use in war. He shall so coordinate all repairs and all to vessels and the supply of personnel thereto as to insure at all times the maximum readiness of the fleet for war."

You can see that he has a logistic responsibility in that paragraph.

"He shall keep all bureaus and offices of the Navy Department informed in regard to action within their cognizances that is at any time necessary or desirable to improve the war efficiency of the fleet, and shall arrange for the coordination of effort of his office and of the bureaus and other offices of the Navy Department in relation thereto. He shall advise the Secretary as to matters pertaining to reserves of ordnance and ammunition, fuel stores and other supplies of whatsoever nature, with a view to meeting effectively the demands of the fleet. In preparing and maintaining readiness plans for the use of the fleet in war he shall freely consult with and have the advice of the various bureaus, boards and offices of the department and the Marine Corps. After the approval of any given war plans by the Secretary it shall be the duty of the Chief of Naval Operations to assign to the bureaus, boards and offices such parts thereof as may be needed for the intelligent carrying out of the

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respective duties in regard to such plans. All orders issued by the Chief of Naval Operations in performing the duties assigned to him shall be performed under the authority of the Secretary of the Navy and his orders shall be considered as emanating from the Secretary shall have full force and effect as such."

Thus you can see that the Chief of Naval Operations is the one responsible officer in the Navy for war plans, and this responsibility is both for strategic plans and logistic plans, and for this the Chief of Naval Operations has direct authority over the bureaus and officers of the Navy Department.

To give you a general explanation of the planning system before discussing the war planning of the War Procurement Section, the War Plans Division prepares the Navy basic plan. This plan contains the joint plan, that is, the plan that the Army and the Navy agree to, the Navy's strategical plan and the logistic plan. The logistic plan shows all the various classes of vessels and when and where they shall be available and ready for service. The Commander in Chief in command of the fleet, guided by the directives of the Navy basic plan and having before him the logistic plan which tells him what vessels and at what times and places they will be, he prepares the operating plan. The task of accomplishing the logistic plan and making all the vessels ready for the Commander in Chief at the times and places specified is delegated in the Navy war planning system to the commandants of the Navy districts. The commandants of the Naval districts are under the direct military control of the Chief of Naval Operations. Each bureau and office of the Navy Department must do its part to enable the commandants of the districts to make these vessels ready at the time specified.

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The War Procurement Planning Section, which is my subject this morning, has as its paramount duty the analysis of the logistic plans, specifying what each materiel bureau of the Navy Department shall do to assist the commandants of the Naval districts in the accomplishing of this task. This analysis of the logistic plan and the war planning work of the materiel bureaus is never ending. Later on I shall give you some concrete examples.

The logistic plan refers first to the Naval vessels in commission and specifies where they shall mobilize. Next it refers to the Naval vessels out of commission, and it specifies where they shall mobilize and when they shall be ready for service. Next it refers to vessels to be taken over from other government departments and equipped with Naval supplies. Then it refers to the merchant vessels to be converted for use of Naval auxiliaries, the merchant vessels to be chartered and used as ships, supplying the fleet with provisions and oil. Finally it refers to the advance bases to be equipped. The war plans prepared in my office analyze these requirements under seventeen different headings and say in effect to the materiel bureaus, "Here is your task, prepare your plans for the districts, where the actual work is to be done, estimate the requirements of material under your cognizances under these seventeen different headings, and hand in your estimates to the War Plans Section, Bureau of Supplies and Accounts, for consolidation purposes."

The War Procurement Planning Section also prepares in its war plans directives for the Naval districts and requires each Naval district to prepare a plan showing how it is going to accomplish this task assigned to them, and it is our responsibility to review these Naval district plans,

make suggestions, and send them back until they are acceptable to us and to the bureaus. You can readily see that in this war planning between all the bureaus of the Navy Department considerable coordination is required. They want to know what they shall start on first, and in preparing plans, as you know, it is all plans for ships, each bureau has to give and take with the other, and that is where the duties of the War Procurement Planning Section comes in in the matter of coordination. First the bureaus and the war plans, insofar as the districts are concerned, have to do with the ships in commission; upon mobilization all our ships in commission are assigned certain districts to which they go for docking purposes and to be equipped with additional supplies. That is pretty well cut and dried. We know exactly what those ships need. The Bureau of Supplies and Accounts has for years kept normal use data tables, and they can tell on any item of material just how much of this item each battleship has used or each cruiser has used or each destroyer has used. They also know how much fuel they use. The Bureau of Supplies and Accounts, in its War Planning Section, is able immediately to tell you what supplies the fleet is going to need for any given period.

However, the next step in mobilizing the Naval establishment for war so far as the districts are concerned is not quite so simple. This is the ships out of commission. We have at the present time approximately 180 ships out of commission. The Fleet Maintenance Division and our office give to the bureaus the priorities in which these ships shall be recommissioned. Some are to be recommissioned in thirty days, some in forty, and so on. To recommission these ships, material is required.

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Of course the Bureau of Navigation looks after the personnel, but the Bureau of C. & R., Ordnance, Engineering, Medicine and Surgery, Aeronautics, all have to figure on how much material it is going to take to recommission these ships, and it is never ending because the older ships are continually being sold or scrapped, and the ships that go out of commission of course are in better condition than some ships that have been out, say six years, but that is a very live program because those ships are going to be a wonderful help to the Navy and they must be commissioned just as soon as we can get them out.

The next job is a conversion program. The conversion program refers to the merchant vessels that are to be taken over from the Merchant Marine and converted into Naval auxiliaries. There are forty-eight different types of conversions. I mean by type conversion that some are to be made into auxiliary cruisers, some into aircraft, auxiliary aircraft carriers, some into aircraft destroyers, some into hospital ships, and some into transports. There are about six hundred vessels to be converted, all due within the first ninety days after mobilization. The bureau of Engineering and the Bureau of Construction and Repair have to prepare typed plans for these conversions. The Engineer and C. and R. plans must agree because it is these plans that go to the Navy yards or the Naval districts for them to follow to convert these merchant vessels. They have to draw up general specifications, and then they have to make estimates of the materials. The next thing they have to do is plan for reserves. They say, "We can't get this material in thirty days when we are going to need it if this job is to be done in sixty days, and so we have to have it before

M-day." That constitutes their reserves. You can readily see that this work is never ending. As new merchant vessels are built that means new conversion plans. The bureaus have been working on these conversion plans for the last ten years and there is still a lot of work to be done. The Bureau of Engineering employs from twenty to thirty men, draftsmen, who do nothing but work on these conversion plans, and almost the same amount is employed by the Bureau of Construction and Repair. That is a very big program and our office continually follows it, and we are particularly interested in the reserves we have to have prior to M-day.

The next planning work which we are vitally concerned with is the new building program. We select prototypes, a submarine, a destroyer, a cruiser, plane carrier or battleship, and we say "This is the ship we want to build in war time." Then all the material that goes into that ship and where it comes from is listed, and having obtained that then we know whether General Electric or Westinghouse or Bausch & Lomb will produce certain materials for this war building program.

The next items with which logistic plans are concerned with are advance bases. Our office gets the general characteristics insofar as material is concerned in regard to these advance bases. We talk it over with Yards and Docks. They draw a picture but first they say, "I don't know how I can draw a picture until I know how many men this base is supposed to support. Then we get Navigation in on it. We say that this base has to do this or that, and we begin to figure the number of men. Then we ask the Bureau of Medicine and Surgery about the hospital equipment for this number of men. Then we take that all down to Yards and Docks and they put a draftsman on it, and finally a picture of that advance base is made out.

We circulate that plan around to the bureaus and say, "There is the advance base we are going to build. What is your list of material, engineering, aeronautics, C. and R., what do you want at this advance basis?" Then Yards and Docks tells how long it will take to construct that base. Now, the War Plans Division may say it takes too long. So we go back to Yards and Docks and do some more figuring and finally we get the construction period within the length of time that will suit the War Plans Division, which is aiming to suit the operating plans of the Commander in Chief.

As I told you before, all this logistic work has to be done in the Naval districts. Each Naval district, as you know, consists of the navy yards and, in addition to the navy yards, commercial shipbuilding facilities. In our war plan we finally analyze this and list the work that each Naval district has to do and the names of the ships and times when they have to be ready. Recently we have been looking at that list very skeptically because it looked as though the districts had too much of a load, and so we have started an analysis of the work loads upon each Naval district. The bureau of C. and R. is the main bureau that makes this analysis for us. They go at it this way, they say, "Mare Island has 3500 men employed at the present time; in the whole Naval district there are 6,000 men employed in ship building facilities." They send word out to the commandant and he investigates the labor market, and after about three months he comes back and says that at the end of ninety days it is estimated that Mare Island can have a force of 10,000 men and at the end of ninety days all the shipbuilding facilities in the district can have a force of 25,000 men. Then C. and R. starts on the analysis. They have the number of men and

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Just how fast it is estimated that they can be obtained and they know how many days it takes to convert a ship and how many ships there are, and finally they make the analysis of the work load. We then show that to the War Plans Division in the front office and in many instances we have been able to convince the War Plans Division that they would have to lighten a certain load or spread it out if the ships are going to be ready at the times they told the Commander in Chief he could have them.

In that same regard of getting all these ships ready there comes the loading of ammunition. The Bureau of Ordnance makes investigation in regard to how long it is going to take to get all the ammunition out there from the various Naval ammunition depots and unload into the barges, and from those barges load into the ships, and perhaps there has to be an adjustment made after that in order that the war plans may be practical. Next comes the loading of supplies on these ships. It takes about 16,000 tons of supplies to support the first concentration for one month. That is where the Bureau of Supplies and Accounts comes in and helps the War Plans Division. They estimate where they are going to get all these supplies, how they are going to handle them, where they are going to store them, and just how often they will have to be renewed. You can see that all these things that I have told you require a lot of coordination, but these and many other factors go into making the logistic part of the Navy basic plan feasible and workable.

All of the materiel bureaus prepare estimates and all of these estimates are filed in the Bureau of Supplies and Accounts. They have something like 47,000 estimates, and they are continually coming in.

The Bureau of Supplies and Accounts analyzes these estimates and that is the basis of procurement planning because after we know what we want then we are able to tell where we are going to get it. It is also from these estimates that data is collected in regard to the motor plan, the aluminum plan, the wire cable plan, and finally they estimate how much all this material is going to cost.

To give you some idea of what this analysis financial data shows, in the first month of a war it is estimated that the Navy will spend about \$425,000,000, in the second month not quite so much, and so on, and at the end of the first year the total expenditures will probably amount to over \$4,000,000,000. The big load is on the first month, and the first ninety days.

Now in regard to the coordination of the military and naval requirements, that has to do with allocations, capacity credits, and work with the Office of The Assistant Secretary of War. Procurement planning is apparently so indefinite in its immediate results that few officers in the Navy have reacted to its great importance and possibilities. Plans are always and necessarily tentative and subject to change. The best that we can hope for is a pre-arrangement of facilities between the services, plus a corps of officers well grounded in industrial planning and trained in the methods of industry. Captain Reed, the head of my section, is a member of the Army and Navy Munitions Board, the Executive Committee. I am also a member of the Executive Committee, and Commander Scott is the assistant secretary. We deal not only with the Army and Navy Munitions Board but with the Office of The Assistant Secretary of War who

has officers who are members of this board or who are on some of the committees, and I will say that in all my contacts with the War Department I have found these officers altogether free from being hidebound; their attitude is receptive and friendly, and they are anxious that a satisfactory adjustment of allocations be made. If this is done prior to the pressure of war much confusion and time can be saved, and you know that when we go to war time is one of the most vital elements. In my contacts with the Army and Navy Munitions Board it has impressed me that this is one of the numerous joint agencies of the War and Navy Departments that works continually. We have a number of other agencies but they only meet once every two or three months, some not so often, but the Army and Navy Munitions Board is continually in existence. There is hardly a day passes that somebody in the War Department doesn't come over to see me or call me up, or I am over here. To me this Army and Navy Munitions Board is one of the best arguments against a Department of National Defense because it shows that by cooperation all problems can be solved and it allows each service to have full and free expression of its needs and desires and allows each service to develop along their own functional lines, not being restricted by some higher organization. The Army and Navy Departments are organized along certain lines that are somewhat similar, and in many respects radically different, but this Army and Navy Munitions Board doesn't bother with the fact that organizations are different, we get together and we do things. It is by a sort of committee system, and I might tell you that I heard the other day that the General Electric Company in their organization said that if they didn't have the committee system their organization would

fall to pieces and that modern business nowadays depends more on the committee system of doing business than upon any organization that is laid down on paper. In this work with the Army and Navy Munitions Board I would like to mention the fact that in the last year the machine tool plan has been agreed upon between the two services, and the optical plan, the aluminum plan, wire and cable, motor, and machine gun plans are being worked upon at the present time. I think that within the next two or three years we will have practically all the requirement items that may offer difficulties of procurement solved to the satisfaction of both services. The Office of The Assistant Secretary of War prepares the industrial mobilization plan, and it is my office of the Navy Department that has to do with that preparation. Lieut. Commander King is my assistant and he has as his special duty the assigning of officers to prepare these annexes, war trade, war labor, transportation, and to coordinate their work and proofread the annexes and change them so that they will make a suitable foundation insofar as the Navy is concerned for the War Resources Administration. We also have considerable work to do with the Army in regard to commodity committees. As you know, we have Army and Navy Munitions Board commodity committees that are similar to the commodity committees in the Office of The Assistant Secretary of War. Lieut. Commander King coordinates the work of the commodity committees insofar as the Navy is concerned. He sees that officers from the Navy Department having knowledge of the special subject required are appointed to the committees, he indoctrinates them and he coordinates the committee work and endeavors to put enough push and pressure behind it that eventually the commodity study is produced.

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With regard to allocations, capacity credits, when the bureaus prepare their list of items that they are going to need for the various shipbuilding and conversion programs, in many instances they will request an allocation. That request comes to our office. We in turn forward it, after proper comments, to the Office of the Assistant Secretary of War, and eventually we receive it back. Then we inform the bureau what allocation or capacity credit has been assigned it.

In regard to the miscellaneous duties in connection with war procurement I spoke to you about reserve material that the bureaus found they would have to have in order to make these programs possible. We obtain from each bureau a list of that material, we look at the costs and estimate how much can be obtained each year. Then we write up for the estimate of the situation the policy in regard to reserve material, we write up for the budget hearings the Navy's financial program in regard to reserve material. We have to defend this financial policy before the Bureau of the Budget and when it comes up before the Appropriations Committee in Congress. In other words, it is a responsibility of the Chief of Naval Operations to get the reserve material that is necessary for the accomplishment of the war plans. Each bureau specifies what it needs and the Chief of Naval Operations takes that responsibility to Congress. It is the same thing with regard to strategic and critical materials. Lieut. Commander King keeps all files and all committee reports in connection with that and has all relations with the Office of The Assistant Secretary of War. Then a list is prepared of what the Navy is going to ask for and this is put in our estimate of the situation. It is put in our budget and we have to go before Congress and

defend it.

The chief of my office is always a member of the Joint Planning Committee of the Joint Board for procurement purposes. He is also a member of the Joint Army and Navy Public Relations Committee. That committee has made one report already and expects soon to make another report. In regard to other miscellaneous work, we have considerable work with the State Department. We are a member, so far as the Navy Department is concerned, of the National Munitions Control Board, and we sat in on that board in all the hearings on exportation of tin scrap and all the deliberations regarding helium. We also have considerable liaison work with the State Department and the Department of Commerce, also the Bureau of Mines, in regard to strategic and critical materials.

Recently, as you know, the Secretary of State has concluded a new trade agreement policy. Many of these articles under consideration were items that affected national defense, and Lieut. Commander King in my office was appointed a representative of the Navy Department to see that no agreements should be made by the Secretary of State that might be inimicable with the interests of national defense. Of course there was also an officer from the War Department there.

We also have considerable work with the Maritime Commission in regard to their building policy in war time.

In conclusion, I might say that the work in our office in regard to war planning is never ending. What was done five years ago is probably being done over again now, but we are gradually getting more advanced. However, it is a never ending work. You always have to look

to the future and have considerable imagination. Some of our estimates we know are not one hundred percent correct, but if they turn out to be eighty percent or even seventy percent correct we are just that much advanced. As changes in ships are made that means new estimates, as new navy yards, new shore establishments are built, it means new estimates, and as new merchant marine vessels are built that means new estimates. It is by coordination of the work of the various bureaus that we hope to make these war plans practical and capable of being accomplished in case of emergency.

I wish to say that we appreciate the work of the Industrial College, all the war plans officers in the bureaus are graduates of this College, and we also appreciate the cooperation that we get from the Office of the Assistant Secretary of War.

DISCUSSION

following lecture by Captain Freeland A. Daubin, U.S.N.

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Q. Captain Daubin, Mr. Kindelberger, when he was here, stated that he was positive in the event of a war building program of airplanes, that there would be a definite shortage of aluminum in the form of sheet and extrusions and, although aluminum is not a strategic material, it can be handled probably under the present appropriations for war reserve. He made a recommendation to the effect that the Government might set up a revolving supply of material in the form of sheet and extrusions which could be issued out to the aircraft builders when they receive a contract for airplanes just as we now furnish them with formal Government-furnished equipment. Would you care to comment on the feasibility of such a thing?

A. Well, I can only give you general comments because I am not connected with the Bureau of Aeronautics, but I think his plan has considerable merit. We have been working on aluminum plans and soon the Army will complete their plan and we will have a plan between the two services. Part of the material required, including aluminum, has already been computed by the Bureau of Aeronautics. Of course, if they have aluminum shapes all ready, we are just going to be that far advanced. As far as the feasibility of getting a stock pile of that, I think there might be some difficulties because it is one thing to lay in raw materials and it is another thing to

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lay in partly fabricated materials.

Q. Captain Daubin, who does your procurement planning out in the field? That is, if you want a factory survey on a specific procurement made, do the people who are handling your current procurement in the districts do that always?

A. As you probably know, the Navy has done very little procurement planning in the field. In case we want a factory surveyed we ask the Inspector of Naval Material to survey the factory. We tell him what is required. But bear this in mind--in all our requirements the Navy is just duplicating its peacetime purchases. We build ships in peacetime. We supply ships in peacetime. We maintain them upon the high seas, so we know what factories can produce things. When there are additional requirements needed, why that is where we depend upon the Army surveys that have already been made, or in case there is any question of whether a factory can take the Navy wartime load, then we ask the Inspector of Naval Material or the Inspector of Machinery, or the Superintendent of Construction or someone in one of the districts to go to that plant and make a survey.

Q. Would you care to comment on the connection of the Shore Establishments Division with procurement planning? For instance, I understand that they make all the specifications for machine tools, or practically all of them.

A. Well, as you know, at a Navy Yard they have the machine shops there. Now some of those machines have been purchased by the

and Repair

Bureau of Construction/ some have been purchased by the Bureau of Engineering, but they are all in the Navy Yard for work upon the ships. So, by mutual agreement, the Bureau of Engineering and the Bureau of Construction and Repair said that an officer in a shore establishment should coordinate the machine tool requirements in so far as the Bureau of Construction and Repair and the Bureau of Engineering are concerned, and recommend all the purchases and all the equipment needed at the Navy Yards. That is by mutual agreement between the two Bureaus that an officer in a shore establishment coordinates this work for them. I might add that it was that officer there and his assistants who cooperated with the Army all last winter and spring in the machine tool allocations.

W. In the case of an overseas war, does the Navy plan on making any use of the Army Transports?

A. Yes. They plan to use transports loaded with Army personnel. You know the Joint Plan says that in the case of an overseas war in which the damage by the enemy is expected--in other words, where the enemy has a Navy that could inflict damage upon ships, the Navy shall man and be responsible for all transports. In the case of a war with an enemy having no Navy, if it is a small South American Country or something like that, then the Army shall handle their own transports. So in our plans for an overseas war we make provisions for providing and convoying Army Transports. I might say that that is one of the big parts of the conversion program, to take these merchant ships and convert them into transports. You know,

every merchant ship that has to be converted has to have its fresh water capacity increased. None of the merchant ships have sufficient fresh water capacity for overseas ships or transports or hospital ships or anything like that.

Q. What efforts does the Navy make to freeze specifications in order to assure speedy accomplishment of these war plans on M-Day? In other words, prevent people from changing specifications on guns and armament to equip these various ships?

A. Well, you have asked me a big question. We freeze specifications as fast as the development in our Navy is frozen. In the event of war, necessarily, we are going to build the types of ships that we have in our fleet at that time and the specifications for that material may be material that was purchased three or four years ago. Now I believe it is the policy of the Bureau of Aeronautics not to freeze their specifications. They are vitally interested, just like your Bureau of Aeronautics, in development work and, you see, there has got to be a happy medium of where you can freeze and where you can't freeze. We are making no effort at the present time to freeze specifications.

Q. Could you give us an idea in this development of ordnance. I appreciate your problem is perhaps a little different than ours. Has the development of ordnance gone on in time of peace as it usually does with us? About how long does it take from the time that you decide on what your requirements should be until you finally get the thing ready to put on board the ship. Is it a matter of three years or how long? I am interested in knowing whether you go through

the same steps we do and consume the same time or have a more direct system.

A. Well, take those triple eight-inch turrets. That took about three years to build and the development was under way about a year previously. I was down at the Proving Ground when they proved those and I know that from the time they got their first inception of those turrets until they were actually ready to be proved was approximately four years.

Commander Dunham: In connection with Commander Bahm's question I might say this: The Bureau of Supplies and Accounts in its capacity as the consolidating agency for requirements for the Navy Department receives from the bureaus cards covering these requirements by items. Each card contains the specification number covering the material desired, whether it be a Navy specification, a commercial specification or a federal specification. On those items in which the specification is subject to change and in which the bureau wants to reserve the right in case of a particularly technical item, there will be a notation upon the card that when the time comes to procure that, the Bureau of Supplies and Accounts shall refer the matter of specification to the technical bureau concerned to insure that the then current specification is used when the order is placed. To that extent the specifications are kept up to date and are frozen in so far as procurement is concerned to the last specification which has been approved and developed.

Captain Daubin: I think that is very pertinent. That answer didn't occur to me.

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Colonel Miles: Are there any further questions? I think we are all indebted to Captain Daubin for this very excellent exposition of his work in the Navy Department and as far as the Army is concerned, we hope that Captain Daubin will stay on the job for a long time.