

6. Naval Warfare

6.1 Naval Units – Naval Units operate individually in the campaign, though they are usually grouped for a mission. Most ships are represented on a 2:1 scale, with smaller vessels like submarines and destroyer escorts represented on a 3:1 scale. The only time that Naval Units interact directly with ground formations is when they are involved in a Naval Invasion. This keeps the scaling to a reasonable level, as ships are not likely to have a significant affect on a primarily land battle at this large a scale.

6.1.1 Naval Experience – Naval Units cannot train, but they begin the game with a set experience level based upon the naval training level of the nation in question. They may gain experience during battles, but they do not gain leaders (except for CAA units). The naval training levels are as follows:

Nations	Training Level
Germany, Japan, Britain, USA, Sweden	300
France, Finland, Norway	200
Italy, Netherlands, Spain, Poland, Portugal, Greece	100
Russia, Rumania, Yugoslavia, Turkey, Belgium, Siam	0

6.1.2 Ports – Ports are indicated on the map by circles, black for Minor Ports and Red for Major Ports. Each Minor Port can base up to 20 Capital Ships or 40 Escorts (or combinations with 2 Escorts = 1 Capital Ship), and Major Ports can base double that number.

6.1.2.1 Port Sides – Ports have access to all adjacent sea squares to that Port. This is because there is usually some element of coastal waters that can be used to move along if the Port is geographically located towards one side or another. Basically, to simplify just use the map as it is presented and the Port is considered that land square. The only exceptions are Ports that are along a narrow coast, for example Manila, which has land to either side as well as to the North, may only be accessed from the South.

6.1.3 Naval Task Force – A Naval Task Force can be called a Fleet as well, but basically any group of naval vessels that act together to perform a mission are a Task Force. For convenience they may be grouped together even when they are in port, but unlike armies a Task Force is completely flexible and can perform a mission with Naval Units being added or subtracted to any degree when the mission is launched from a Port, and sometimes it may change when the mission reaches another Port. Task Forces cannot split up or join in the middle of the sea, however, but only at friendly Ports. Any number of ships may be in a Task Force, although only 2 submarines may be attached to any Task Force (see below) as scouts.

6.1.4 Submarine Flotilla – Submarines were generally not fast enough to properly work with surface units, so when Submarines work together they do so in smaller groups. The Submarine Flotilla can have up to 8 Subs attached to it, but no more. This is because of the nature of submarine warfare and in fact, even the flotilla really represents a number of submarines operating over a wide area.

6.1.5 Raider Group – Raider groups are small groups of fast, usually long range surface ships. A Raider group can be 1 to 2 (surface) Naval Units with a speed of 3 or more. Raider groups may attack enemy shipping, and are harder to intercept or spot (-1 for each).

6.1.5.1 Disguised Merchant Raiders – The Germans used disguised merchants to good effect at the start of the war as Raiders. These operate like Raiders do, except they don't have to be fast because they rely instead on deception. They have extreme long range endurance, making them useful to send on far off missions well beyond where the heaviest convoy escorts are likely to be.

6.1.6 Merchant Convoy – A Merchant Convoy represents sustained economic shipping, and not a specific mission such as transporting troops or supplies. Because of the sustained nature of such shipping, a Merchant Convoy cannot be larger than 8 Transports in size. Merchant Convoys may be provided with any Naval Unit escort or none at all as desired. The routes and numbers of merchant ships needed is dependent upon the Nation and its economy.

6.1.7 Naval Unit Types – The following Naval Units are available in PG II and all of them are used:

6.1.7.1 Battleship (BB) – Battleships are very hard to sink, and have long range guns. They also take up an additional hex around their location, so other ships cannot be moved adjacent to them and other BB units have to stay 3 hexes away (because they have their own “zone” or whatever it is). This is hardwired in the game.

6.1.7.2 Battle Cruiser (BC) – Faster than a BB but with less armor. There doesn't appear to be any difference between the BB and BC units in PG II, but I kept the type anyway.

6.1.7.3 Aircraft Carrier (CV) – Carriers have the same deployment zone as a BB does, and have the capacity to carry and rearm Naval Air Units (from 1 to 3). Very useful for a Naval Battle.

6.1.7.4 Cruiser (CA) – Pretty much just a smaller version of a battleship but a cruiser has no extra zone around it, reflecting its smaller size. I thought about just making classifying bigger units as CA, except that the CV is the only unit that can rearm an aircraft, so since that has the zone I might as well keep it. In addition, fixed coast guns are classed as a Cruiser. The reason for this is that they will fire back against Naval Units that attack them, assuming they are in range. Other unit types will not.

6.1.7.5 Light Cruiser (CL) – Smaller than a cruiser but a bit bigger than a destroyer, a light cruiser is otherwise no different from a cruiser as far as I can tell (in PG II terms).

6.1.7.6 Destroyer (DD) – Destroyers are vital because while their guns are weak, they are very fast and are the only Naval Units that can attack subs. Without Destroyers, other ships are dead meat when subs are around.

6.1.7.7 Submarines (SS) – Probably the most deadly unit to other naval units, a sub can't be attacked except by a DD. This means that when they attack other types of Naval Units, then tend to do a hell of a lot of damage, regardless of their Naval Attack rating. This is very oddly added into the PG II game code, but the bottom line is that almost any sub can do significant damage to a BB, for example, more than even another BB can typically do to it. They are vulnerable to air units and destroyers, and also tend to be slow. They also have a 50% chance of avoiding even a unit that can attack it (by diving). Despite these advantages, a good screen of DD units and some air can usually smash subs up quite well.

6.1.8 Special Naval Unit Types – These are unit types that are necessary for the game but do not fit neatly into the above standard PG II categories.

6.1.8.1 Escort Carriers (CVE) – In reality the Escort Carrier is built at a 3:1 scale, since they tend to be small, slower ships often converted to carry aircraft. However, since they don't appear until later the scale doesn't matter very much but their capabilities are built into the unit cost. A CVE carries 1 Air Unit only, and can only be used for Escort Duty (not patrol). They are great to use to guard important convoys and merchant shipping, when heavier units are needed elsewhere.

6.1.8.2 ASW Cruiser (CLD) – This is a light cruiser, usually, that has ASW capability. Since cruisers don't have that capability, they are classified for PG II as Destroyer Units. However, since they are much more expensive than DD units, care should be taken in using them in the ASW role as they are not as expendable as a DD is.

6.1.8.3 Anti-Aircraft Cruiser (CAA) – These are cruisers designed to provide air defense for a fleet by being crammed full of AA guns. Truthfully, they didn't work all that well but the PG II game doesn't properly calculate [AA] damage for higher values than 1. Therefore, I can only properly program a higher Air Defense rating for ships with more AA guns, which is important but not as effective. Therefore, I decided to have some CAA units, which are actually naval AA guns that are hard to program into a battle, but it can be done (they have to already be placed on the map, though, in order to work).

6.1.8.4 Coastal Cruiser (CC) – These are outdated heavy warships that have been relegated to coastal defense roles. They can be used for bombardment or convoy escort, but are too slow and inefficient to be used in Naval Patrols.

6.1.8.5 Destroyer Escort (DE) – These are smaller escort vessels designed to be used in a primarily ASW role. Therefore, they have very limited capacity in a fleet role and their naval attack ratings are higher than they should be against other surface ships. Therefore, the DE unit is the same as a DD except that it can only be used in a convoy escort role or to intercept Submarine Flotillas (in an ASW role). They may also be used for bombardment support, since their value as such is already quite limited.

6.1.8.6 Small Submarines (SSC) – Small subs, not necessarily midget subs but close at least, can be transported by land. These types of Sub Unit may be moved strategically from one port to another by land.

6.2 Naval Transport – Naval Transport in PG II is like air transport, it is supplied from the scenario and assigned as needed from ports or when a ground unit is deployed at sea. In the campaign, Naval Transports are generic for every Nation and represent any type of ship used, and in the case of some battles even river transport. In addition to moving ground units (or short ranged air units) by sea, naval transport is needed for merchant shipping (this applies to Britain, the USA and Japan only) and for Naval Invasions.

6.2.1 Transport Pools – Instead of being assigned to a particular port like a Naval Unit, Transport is assigned simply as a pool of units within a Sea Zone that may be drawn as needed from any friendly Port with access to that Sea Zone. Some Ports have access to more than one Sea Zone, for example Gibraltar can access both the Atlantic and the Mediterranean Transport Pools.

6.2.2 European Transport Pools – The European Map is divided into the Atlantic and Mediterranean Transport Pools. In addition, the Baltic and Black Sea can be appended to

either the Atlantic or Mediterranean Pools if access can be established. The Baltic requires access through either the Kiel canal in Germany or Copenhagen in order to be attached to the Atlantic Pool, and access to the Black Sea is controlled by Istanbul. If these areas are not under friendly control, then the Sea is considered an Independent Transport Pool. As indicated above, Gibraltar controls access between the Atlantic and Mediterranean.

6.2.2.1 Access to the Pacific – The Atlantic Transport Pool can access the Pacific Pool via the Panama Canal, controlled by the USA, or otherwise the long route via Cape Horn.

6.2.2.2 Access to the Indian Ocean – The Mediterranean can access the Indian Ocean via the Suez Canal, and the Atlantic via South Africa.

6.2.2.3 Russian Transport Pool – The Russians only have limited access to sea areas, and most of these are small. Therefore, the Russians have a small overall Pool that they can use anywhere at all. Since it is not likely they will build much transport in any case or need much, this is not likely to be any issue.

6.2.3 Far East Transport Pools – The Far East has only the Pacific and Indian Ocean Transport Pools. The Indian Ocean on-Map is defined as covering the Southeast Asian Front, so in effect it also includes the small seas that make up the Dutch East Indies as well as the South China Sea.

6.2.3.1 Port Access – The Port of Foochow is only accessed by the Indian Ocean Transport Pool (it is actually the South China Sea), but Taipei has access to either the Pacific or Indian Ocean Transport Pool (Based on 6.1.2.1 Port Sides). This also means that you may only enter Taipei from the Southeast Asian Front (the scale of the Map doesn't quite show where the port is actually located). Manila is similarly restricted to the Southeast Asian Front, as is Ambon, although the latter may be invaded from the Pacific Front. Finally, Townsville is physically on the Southeast Asian Front, but its access is only to the Pacific Front and Transport Pool.

6.2.3.2 Access across the Arctic – The Arctic Ocean over Russia and Canada are only navigable during the Summer and Fall seasons.

6.2.3.3 Leningrad Canal – Russia may also send Naval Units during the Summer and Fall seasons through between Murmansk and Leningrad via Petropavlovsk.

6.2.4 Port Capacity – This rule has been deleted. It may be re-instated if it seems to be needed. I would like to try to play without any pre-set limits on what number of transports ports can handle. I think it may not be of any significant consequence.

6.2.5 Channel Crossing – Movement across a Blue Crossing Arrow by land is allowed without using any Naval Transports. Small boats and transports of that nature, rather than large ships, are used because of how narrow these waters are. An attack across such a Crossing Arrow will still involve Naval Transports for the attacking force, but these are available automatically.

6.2.6 Movement between Transport Pools – If Transports perform a mission that is completed in another Transport Pool, the Transports may either remain there or return to their original pool. This is indicated under the convoy sheet when their mission is given its orders. It is also possible to simply move them without a mission, creating a mission

that basically has no cargo. This is most likely something that the USA may do when moving Transports from West to East, for example.

6.3 Naval Orders – Naval Units receive all of their Orders simultaneously during the Orders Phase, and then combat can take place during Operations.

6.3.1 Operational Range (Patrol) – The Operational Range of a Naval Unit is the distance it can travel and then return to its home base, while engaging in offensive operations like a Naval Patrol or an Invasion. Each Naval Unit has a Patrol Range = 1 for each 1,800 miles of endurance it is rated at.

1 Range = 10 Squares on-Map in Europe,
1 Range = 5 Squares on-Map in the Far East.

Sea Zones for the Atlantic, Indian and Pacific Oceans are indicated as either 1 or 2 Range for purposes of movement off Map.

A 1 Range Sea Zone is approximately 10° Latitude, and 10°+ degrees of Longitude (increased the further the distance is from the Equator). 10° of Latitude is about 690 Miles, since the circumference of the Earth is 25,000 miles and $25,000/360^\circ = 69$ miles.

6.3.2 Endurance – Each Naval Unit has an Endurance of 1 for each 600 miles of nautical range it is rated at. This translates into the same range system as Operational Range, but allows you to change base and provide naval escort between friendly ports.

6.3.3 Naval Patrol – A Naval Patrol can be undertaken from any friendly Port and out to any sea square within Operational Range. Naval Patrols allow your Naval Units to Intercept any nearby enemy Naval Missions, as well as launch Naval Air Units from the location of the Patrol.

6.3.3.1 Staging Area – If you wish to have Naval Units combine in order to launch a Patrol, they must first rendezvous at another friendly port, or staging area. The Staging Area must be either a friendly Port or Island within the Operational Range of all of the Naval Units in question. From that location, they may then choose to Patrol any square or Sea Zone within their Range. This effectively “doubles” your Patrol Range, but it requires some sort of friendly port within that range to launch from, and that may even include small islands, in addition to actual Ports, making such islands useful in the Far East.

6.3.3.2 Returning to Port – When designating Orders for a Naval Patrol, you must designate where you wish your Units to return after their Mission. This can be their home base, the staging area (if it is a Port), or any friendly Base within Patrol Range of the Patrol Square.

6.3.3.3 Patrol in a Sea Zone – To Patrol a Sea Zone requires the full range of the Sea Zone in question, and allows any task force, submarine patrol, or raider group to intercept any naval activity that passes through that Sea Zone. Note that range would be calculated by adding the squares needed to get to the Map Edge, with 5 or 10 squares = 1 Range, then adding the Range of the Zone and any Zones that must be passed through. This must be equal or less than the Patrol Range of the unit(s) in question.

6.3.4 Naval Transport Convoy – A Naval Transport Convoy carries units, supplies, and anything else that needs to move by sea. Usually a Naval Transport Convoy is assigned a Naval Escort to protect the transports, as well.

6.3.4.1 Embarkation – Naval Transports may embark from any friendly Port that has access to the indicated Transport Pool. Each Unit assigned may either come from a connected Army Reserve (Supplies or Units are embarked this way), or they may be ground units from a formation that has access to the Port. There can be multiple Ports of embarkation for a single convoy, but they must join together at a friendly Port and continue on from there, and usually they have escort for the various legs of their mission. The endurance of a Naval Transport is 10 as a standard for all of them, so the net range from any port of embarkation to a refueling port cannot be greater than 10 (Naval) Range, and from there to the destination another 10. This is not likely to be an issue except when moving very long distances, usually off-map.

6.3.4.2 Debarkation – There can only be 1 port of debarkation for any transport mission. At the destination, all reserve units and supplies are added to the destination's command reserve, and ground forces continue any strategic movement their orders indicated as applicable.

6.3.4.3 Refueling – Any friendly Territory, Island, or Port can be designated as a refueling location, and can effectively double the overall endurance of a Naval Transport Mission. Only one refueling is permitted per mission.

6.3.4.4 Ground Transport as Cargo – Usually if a unit already has attached Ground Transport both it and its Transport may be carried along by 1 Naval Transport. In the event that you are just moving a lot of transport, such as when Lend-Lease Transport is being shipped, each Ground unit can freely “hitch a ride” on any Transport not already carrying one, or you can put two of them in one transport at a time.

6.3.4.5 Merchant Convoys – Merchant Convoys, as well as any Tankers carrying Oil Units, are not much different from other Transport Convoys except that they can be no larger than 8 Transports each. Escort for such convoys is not limited in size. In practice, it will be difficult to cover every convoy and still have naval units free for other duties, so I don't think there is a need to impose any further constraints on escort.

6.3.5 Naval Escort – A Naval Escort Mission protects Transports from enemy attack. The mission can protect any single Merchant Convoy or Naval Transport Convoy. Escorting Naval Units are ordered to any Port from which the Convoy embarks, and from there they continue with the ships until their Mission is complete. The Range of Naval Escort cannot exceed Endurance Range of the Ship up to a Refueling Port and from there to the Port of Debarkation. Naval Units that provide Escort may then return to their home port, remain in the destination port, or can re-base in any friendly port that they passed through along their route.

6.3.5.1 Reverse Escort – In some cases, especially with Merchant Convoys, the convoy route may be such that the Naval Escort is based at the destination. In this case, they can be routed to the embarkation port, then return as Escort with the Convoy (along the same route). For example, you can escort merchants that come from the Americas to Britain with ships based in Britain. This doesn't really change anything except that the mission may be intercepted on its way back, rather than on the way out, assuming you intend to target the shipping. As long as only one attack is made against the Escort and/or convoy, this does not change anything.

6.3.5.2 Partial Escort – If Escort is unable to reach the Destination Port, but can reach some friendly port to re-fuel along the way, it can be used to protect that portion of the route. However, if its endurance ends in the middle of the ocean, it can't be used because the endurance assumes the ability to refuel at the destination. If not, then it is possible to provide some limited escort up to 50% of endurance Range, rounded down.

6.3.6 Naval Invasion Orders – In a Naval Invasion, there are orders given to ground forces, naval transports, and escorting warships which all combine to form the actual invasion that takes place during Operations (assuming it has not been aborted or interrupted in the meantime).

6.3.6.1 Naval Invasion Range – The total range of a Naval Invasion is limited both in the distance to the staging area (if there is no staging area, range to staging area = 0) and in distance to the invasion square. In addition, both of these ranges affect the number of naval transports needed per unit being shipped. The requirement is higher than that for normal movement because of the need for landing craft and other significant difficulties inherent in naval invasions. Note that the ranges are expressed like naval unit ranges, so Range 0 to 2 in the Pacific would mean a distance of 0 to 10 squares (range 1 is 5, range 2 is 10 squares) from the launch site to the staging area.. Of course, these can't exceed the operational range of the individual ships assigned as escort for the mission either. The following table describes the ranges and transports allowed for a Naval Invasion:

Range to Staging Area	Transports	Range to Invasion	Transports
0 to 2	1/Unit	1 to 2	1/Unit
3 to 4	2/Unit	3 to 4	2/Unit

6.3.6.2 Ground Forces – Ground Units sent on a Naval Invasion must already be in the same Territory as the Port of Embarkation and then move to the staging area, if applicable. They may carry all of their component units, or some may be left behind and sent to the reserve if there is not enough transport available, and the same applies to any assigned supplies. Units and supply still in the reserve can't be assigned to an invasion, nor can forces that are not already in a port or formed and available.

6.3.6.3 Landing Craft – Certain Units may be assigned Landing Craft, and if so these count as 1 Transport towards the requirements above. In addition, SNLF and RMCo Units are automatically given “free” landing craft even if they have not been assigned such a unit.

6.3.6.4 Reinforcements – Note that when calculating the required Transport, a minimum of 2 Transports per Unit must be assigned, making it difficult to send a lot of forces into a battle. If you wish to invade a small island or an area with minimal or no forces defending it, the need for landing craft is minimal and it is possible to choose another option. If you make an invasion and leave some of the forces for followup waves, you can attack with all units assigned 1 less transport and they will fight the battle at half strength (5 strength). The second option is to use only 1 transport in total (assuming the normal requirement is 3 or more transports, because if it is only 2 then the former option may always be used), but these reinforcements won't appear in the battle at all, but will land once the territory has been secured.

6.3.7 Naval Base Change – If you choose to change base as part of any of the above missions, you may indicate such during orders and change base to any port along the route that your unit took during the Mission. If you simply wish to make a base change only, then that is a base change. There are two options when making a base change:

6.3.7.1 Operational Base Change – An operational change of base is a short movement of forces so that they may still be available for nearby operations. This is identical to a Patrol Order, except that your destination is another friendly port within patrol range. It may also include a “stage” to another port along the way. The result is that any carriers with naval air may deploy their air units during operations from the location of their new base, and any naval units in that base may intercept nearby activity or defend their port from invasion.

6.3.7.2 Strategic Base Change – A strategic base change is usually a movement across much larger distances, and is the same as a naval escort mission and uses endurance range, except that no transports are

used. The ships are not active and may not be used to defend their new base and all aircraft would be considered organizing as well. If that base comes under attack, the ships will not be available either to defend or to be targeted. If a base is invaded and lost, the mission is aborted.

6.4 Naval Interception – During Operations, Naval Battles will take place as a result of Interceptions against enemy Naval Missions. Naval Interceptions are announced during Ops at the same time as attacks and reactions are being made. However, they operate under their own set of rules:

6.4.1 Naval Routes – Every Naval Mission must assign a Route to that Mission during the Orders Phase. The Route of naval movement includes is traced on the Map (or off map through Naval Zones) step-by-step from start to finish. When tracing a route on the theatre map you may only indicate the Ports used and the Sea Squares traversed, although you may also go through straits or small islands when indicated. Coastal waters are assumed to exist in some of the land and port squares, but for game purposes all movement must be done via sea squares, again with the exception of small Islands (indicated by double blue lines around the square). Straits require control over one or both of the land sides being passed through (see Straits).

6.4.1.1 Merchant Convoy Routes – Merchant Convoys are limited in size, and multiple convoys are usually required for each Nation to cover its needs. The routes established to various sources of goods are therefore indicated in a particular order of importance and the convoys need to be routed appropriately. Check each Nation for its particular requirements.

6.4.2 Search Range – In order to spot an enemy Naval Mission and Intercept it, ready naval or air units must be based or on Naval Patrol within search range of the Route the enemy naval mission travels. Search is a function of each naval and air unit's capabilities (this will be available on the nation's sheet for every unit). Search Range for a fleet on patrol is equal to the highest unit within the fleet. Note that you may also search diagonally using the same rules as movement, i.e. the first diagonal counts as 2, the second as 3, and so on. A Search Range of 0 is the minimum possible, and means that you only spot in the same square that is under patrol. In addition, Search Range is further adjusted (cumulatively, but never less than 0) as follows:

Pacific Map: -1

ASW: -1

vs. Raiders: -1

6.4.2.1 ASW Search – Only DD, DE, CV, CVE and Air Units have an ASW Search function (i.e. may spot a submarine flotilla), and this is always 1 less than their normal Search rating. All other Units may not spot submarine flotillas at all. While all Air Units have an ASW Search Range, only some have actual ASW capability. Only Fighters (which cannot in any case engage Submarines) and Bombers with the ASW ability are allowed to participate in a battle against a Submarine Flotilla, though other units may have spotted the activity. The one exception to this is CAP, in which case the Air Unit is part of the convoy itself, and always available to defend the convoy against any type of attack.

6.4.2.2 Carrier Task Force – If a Carrier Task Force is on Naval Patrol, its Air Units may be sent on a Naval Patrol as well, in which case they can be given a location to patrol from the Patrol square that the carrier is in. This greatly extends the ability of a Carrier Task Force to spot enemy Naval activity and intercept, often with air units alone.

6.4.3 Intercept Points – Basically, an intercept point is any sea square on the Map that is spotted by friendly naval forces on patrol or any naval air patrols. These represent points along the mission route that may be subject to interception.

6.4.3.1 Intercept Range – In order to make a naval intercept, an air unit must be within range of an intercept point and a Naval Unit must be on Patrol within intercept range of such a point. Unlike Search Range, Interception is only possible by individual ships and therefore the entire fleet is affected by the slowest ship. However, it is possible to break off faster ships from any existing Naval Patrol. An Interception Range of 0 means that you have to be in the same Square as the Mission passing through. Interception Range is also adjusted by the same modifiers that affect Search Range:

Pacific Map: -1

ASW: -1

vs. Raiders: -1

6.4.3.2 Fleet Interception – Note that only 1 single fleet may intercept a single mission, no multiple intercepts are possible. Fleet interception can be split off from a single patrol, but the opposite is not possible you cannot combine two patrols against the same enemy mission. The only Naval Units eligible to intercept are those on Naval Patrol or those that are in Port (or made an operational base change to a port) and within intercept range.

6.4.3.3 Air Unit Interception – Air Units within Range of any spotted Naval Activity and otherwise Ready may be used to attack enemy naval missions, with the proviso that ASW still limits the ability of Bombers to intercept submarine flotillas.

6.4.3.4 Interception Location – The Intercept Point must be any on-Map Sea Square or off-Map Sea Zone. You may not intercept at a Port (this is represented by a land square), however. The only exception is Islands which may be passed through because of double blue lines. These are too small to take up an entire land square and are therefore considered to be both a Sea and a Land square simultaneously.

6.4.4 Interception in Sea Zones – Although a Sea Zone represents such a large area of the Map, it is assumed that an attempt to intercept is possible. Any Task Force or Submarine Flotilla on Patrol may intercept a convoy in a Sea Zone as well. In this case, interception range is not taken into account. However, it is harder to intercept in a Sea Zone and that is reflected in the setup of the Naval Battle. Note that

6.4.4.1 Naval Air Patrols in a Sea Zone – The only Air Units that may intercept in a Sea Zone are those that are specifically on Patrol in that Sea Zone. This is different from on-Map Interceptions because of the large area that the Sea Zone represents as well as the distance from the mainland.

6.4.5 Order of Interception – Interceptions are resolved in Reverse Order, so for example if Force A intercepts Force B, but then Force C intercepts Force B, you would play the C vs. B battle, following which (if they “completed” their mission by being in the target zone by the end of the battle) you could then do the B vs. A Battle, which could also be aborted if it suffered too much damage (at the attacker’s discretion).

6.5 Naval Battles – Naval Battles are conducted in the Battle Phase in the Order of Interception as above, so sometimes they must be resolved in sequence as a result. However, they are all resolved during the Battle Phase. During the Breakthrough Battle

Phase, special situations may arise that require Battles to be fought at this time instead (including in the Pacific Theatre).

6.5.1 Interception Battle – These Battles last 22 Turns, and one side may choose to Retreat on Turn 12, in the same manner as a Land Battle. The setup depends upon the theatre and the distance to the interception point. In addition, any mission is required to reach a destination zone in order to complete its mission. If it does not reach the target zone by the end of the Battle or at the time of withdrawal on Turn 12 or later, it does not complete its Mission. This may mean you choose to abort the entire mission, or you may proceed if only some units made it through.

6.5.1.1 Naval Deployment – The Naval Battle Details worksheet indicates how Naval Deployment will be determined for a Naval Battle. The PG II Ocean Map is divided into 16 squares, 4 per side, with each of the 16 squares representing a number of hexes on the map. The PG II Map Hexes chart will indicate how the hexes have been divided (as evenly as possible, but since the actual hexes may be important they are specifically delineated here). The attacker deploys within the red zone, and the defender in the blue zone.

6.5.1.2 Interception Distance – The type of interception and distance on the Map affects the deployment. This is indicated from a distance of 0 to 3 on the European and Pacific Maps separately. An attack by air units only is also a different type of deployment, and an interception in a Sea Zone will depend on the size of the Sea Zone in question.

6.5.1.3 Mission Completion – The area indicated as “Defender Destination” is the area that ships must be in order to complete their mission. This applies for every Intercepted Naval Mission that has not yet reached its destination. Even an intercepted Patrol Mission has not yet reached its destination if it is still en-route to its Patrol Square. Note that if you complete your mission, you may continue with any undamaged ships, and this includes Patrol Missions. This means that if a Naval Patrol defends itself against an Interception, it can still choose to make its own Interception as well (that doesn’t count as 2 missions, as it may complete its first Mission). This is one of the few times that a fleet can be in a battle twice during the turn, but it is voluntary for the fleet since it has still only been attacked once.

6.5.1.4 Damaged Ships – If a Naval Unit sustains more than 2 points of damage in a Battle, it automatically returns to Port and cannot continue its Mission. Other Units may continue their Mission or choose to abort it and return to Port. If any Naval Units are heavily damaged following a battle, they may decide to return to a shipyard if their current base cannot repair the damage. In this case, they must choose the nearest friendly location capable of doing so and take the most direct route possible, and they may be *intercepted during the Breakthrough Phase (this works like any other Interception Battle, but happens during Breakthrough instead of Operations, with Naval and Air Units that have not previously acted during the turn)*. The other alternative is to have the ship return to port and even though it is damaged, it may make a future base change to another port with a shipyard facility. Otherwise, damaged ships may not conduct any missions until they have been completely repaired to full strength.

6.5.1.5 Evacuations – The final type of interception battle that can occur is after any land battle in which the defender has retreated by way of a Port, or in which Naval Units were displaced. This takes place during the Breakthrough Phase. Only available transports may be used to evacuate land forces, and only naval units based in that port may provide escort. Displaced naval units may form fleets and re-base to any other friendly port. After mission announcements, any interceptions may take place. This works exactly like it does during Ops. Note that in the event naval units are overrun during a Breakthrough Battle, they are all scuttled. Similarly, land units cannot evacuate by port if they are overrun in a breakthrough battle.

6.5.1.6 Merchant Ships and Tankers – Submarine Warfare is a subset of Interceptions, with convoys of merchants and/or tankers being intercepted by submarines and raiders, sometimes with limited air support as well. This is handled in the same exact way as any other interception, however the results may be calculated in a different manner. If the convoy does not “complete its mission” then oil is not delivered in

the case of tankers, and if merchant ships turn back then 100 PPs of SW damage accrues for each merchant ship so doing. In addition, they can be sunk or damaged. Sinking of course accomplishes the same result as foiling the mission, except that the transport is also destroyed. Damaged ships and tankers accrue 10 PPs of SW damage for each point of damage they take, but tankers will always deliver an oil unit unless they are sunk or fail their mission.

6.5.2 Naval Invasion – A Naval Invasion Battle takes place whenever Naval Invasion Orders have been given, and the attack order is given during Ops. It is possible to abort a Naval Invasion by simply choosing not to attack during Ops. This does not preclude your forces from intercepting enemy naval forces nor does it preclude the same being done to your invasion fleet. Once the order is given, there are several options to consider:

6.5.2.1 Interception vs. Defense – Interception is possible prior to an Invasion taking place. If Naval Interception takes place, it may occur in any Sea Square up to and including the square adjacent to the Invasion Territory. This can take place by the usual method, with any available fleet making the interception as well as supporting air units. Note that the invasion must still be spotted, so unless an air or naval unit is based in that square, it does not automatically assume spotting occurs unless actual units do so. However, if defending naval units are based there, they will be able to make an interception. Such an interception is independent of the actual invasion battle, however. That means that you may choose not to intercept, but instead hold back air and naval units to defend against the actual landing. Naval Units may also provide defensive bombardment support, but only if they are based in the territory or have made an operational base change to that territory. Otherwise, nearby friendly naval forces could choose the intercept option instead. Both options are possible, but only 1 interception may be made against the fleet. Note that you may do both even with the same ships – i.e. intercept the fleet, then use the same ships for bombardment support. Of course, this assumes they are still afloat and capable and have not been badly damaged. Damaged ships in Port, or available after such an interception, can only participate in bombardment defense if the damage is minimal and they are at 8 or 9 strength still.

6.5.2.2 Naval Bombardment – Naval Bombardment is prohibited except in support or defense of a Naval Invasion. If there is a simultaneous land attack, the Naval Invasion force must be at least 50% of the total number of attacking units or bombardment is prohibited for both sides. Naval Bombardment may include any ship in the invasion fleet as well as any ship based in the territory under attack. However, the stacking limit for a naval invasion is no more than 8 naval units of any type, with no more than 2 submarines included as part of this force.

6.5.2.3 Reactions – Defending forces may also react to reinforce a territory under naval invasion during the ops phase, just as they would to defend any territory under attack. The same rules apply (including the fact that they will not get any entrenchment bonus for a fortified line). The attacker may do the same in regards to his air units or possible airborne units as well, or even partisans in an auxiliary role to work behind the lines (like the French Resistance did in Normandy).

6.5.2.4 Fixed Defenses – Fixed Anti-Aircraft guns (some of which may have a dual function) and fixed coastal guns may be deployed. In addition, any fortified lines constructed will add +8 entrenchment for defending forces, just as they would against a land attack.

6.5.3 Island Invasion – Islands have a small stacking limit of 1 Division, so all ground forces are split into 5-Strength increments (or Garrisons remain as they are) and Naval and Units assigned to bombardment are also at 50% Strength (rounded up) *but are not split (so no more than 8 half-strength naval units are present per side)*. This applies to both the attacker as well as the defender. Damage to those units during the Battle will occur on a 1:1 Basis. This only applies to actual Islands (with blue all around them) not to single territory islands, which have a larger stacking limit and therefore operate

normally. Because of this stacking limit, the attacker is also restricted to attacking with 1 division at most, but can supplement this with special forces.

6.5.3.1 Island Defenses – There are two options available for Island Defense. It is possible to have a full strength division there, or it is possible to have an island garrison, but not both. Island garrisons are normal OOB divisions at half strength (they don't count towards the force limit, either). In addition to either the division or garrison, an island can also have fixed coastal and air defense at half strength (use the normal stacking limits, but at half strength). In addition, Islands do not need fortified lines, but instead are always considered to have a fortified line. This makes taking Islands fairly difficult, but the fact that Naval Guns can usually reach the defenders quite easily on a small island can quickly degrade the entrenchment levels, so it balances out.

6.5.3.2 Air Units – Air Units are also split into 50% strength units, but although they are split the overall stacking limit of 4 fighter and 4 bomber units cannot be exceeded. Therefore, when attacking or defending against an island invasion, up to 2 full strength units of each type could be assigned, or more units, but then they would not all be employed. Damage accrues on a 1 to 1 scale, as does experience

6.5.3.3 Battle Length – Battles for Island Invasions are only 12 Turns long, because of how small the area under attack is. An Island Invasion can, however, be evacuated if at the end of the Battle there are any surviving defenders capable of making such an evacuation.

6.5.4 Port Attack – A Port attack is an Air attack (usually) against Naval and Strategic Targets in a Port City. A Port Attack may be made by up to 4 fighter and 4 bomber units against an enemy target during the Ops Phase, and lasts 12 Turns in the same manner as a Strategic Bombing Attack. In addition, the defender can deploy fixed air defense units as well as interceptors to defend the port.

6.5.4.1 Targets – Ports can represent target-rich environments, and that includes any factories that may also be in the target city, shipyard facilities, refineries, and of course and naval units in port or under repair or construction in the port shipyard facilities, and finally fixed coast guns can even be targeted if present. All of these targets, if available, will be present in the battle. Radar and Observation Towers are only available if there are factories, refineries or shipyards present, however (1 for each such unit).

6.5.4.2 Ships in Port – Ships in Port may be attacked if they made an Operational Base Change to that Port or have just remained in Port for the Turn. You cannot attack ships in Port if they are on any other Mission. Ships as targets of an attack can't move while in Port, and are deployed (at full strength) within a relatively small coastal area representing the port. This way they are both easily found as well as easily covered by air defenses nearby. In addition, because of the fact that not all of the crew may be available, experience is reduced by 100 for any ships in Port. Damage accrues on a 1 to 1 basis from any air attacks, although if a ship sinks in a facility with a shipyard, it may be raised again and placed "under construction" in the shipyard at 2 strength (or scrapped for 1 point).

6.5.4.3 Ships under Repair – Ships in a port under repair are the same as other ships in Port but will have their strength reduced accordingly. In addition, they are reduced by 200 experience and the same rule applies if they are sunk while in a shipyard; they are placed under construction at 2 strength points.

6.5.4.4 Ships under Construction – Ships within a shipyard and under construction are placed there at their partial strength if it is from 1 to 9, with no experience. If they are destroyed, they are completely eliminated. If a ship is almost complete it is placed at 8 (strength 10) or 9 (strength 11), but in this case it has already been launched and if destroyed can be re-built from a strength of 1 (strength 10) or 2 (strength 11). Even if a ship is almost done and has been launched, however, it receives no experience. Any construction or repair that was done during orders should also be accounted for prior to setting up the ships. That means that if a ship was completed that turn, it is placed as a completed ship just like any other. The

only difference being that it would not have been able to perform any mission that turn (or be placed at another port, for that matter, since that is done during logistics).

6.5.4.5 Shipyards – Shipyards are present as targets similar to factories and refineries, but 1 target is placed for each 100 capacity of the shipyard or portion thereof (i.e. a 250 capacity shipyard is 3 targets). In the case of shipyards, damage can accrue up to 2x the capacity of the shipyard, but does not do SW damage. Instead, the damage must be repaired during logistics as an infrastructure build, otherwise the shipyard is incapacitated by damage. A shipyard can be repaired immediately if PPs is available to do so, but otherwise cannot operate until all damage has been repaired. Shipyards are attacked and damage calculated against them applying the exact same rules as factories. It is also possible for any side to voluntarily “destroy” a shipyard under its control during the Logistics Phase. In this case, it may be repaired at the maximum cost of 2x the shipyard’s capacity.

6.5.4.6 Pearl Harbor – Pearl Harbor is a special case for the Japanese, whose surprise attack was able to do considerable damage. The level of surprise and position of the USA fleet carriers is determined by the chart on the Naval Battles Sheet. Partial surprise allows for 1 wave of attacks at surprise, followed by an optional wave with no surprise, and full surprise allows 2 waves with surprise. Surprise reduces all ships, anti-aircraft, and air units to half strength, but damage accrues to them at 2x normal strength. In addition, all naval units that are surprised will fight at –200 experience. Finally, the “second wave” option is always available. This lets the Japanese attack twice in the turn, although any losses they suffer cannot be repaired. The second wave is optional. Note that Hawaii also has Refineries that may be attacked and SW damage can be attained by targeting these.

6.5.4.7 Vichy France – A Neutral Vichy France (not allied) can have its Algerian Fleet attacked at Oran by British Naval forces. This is a normal Port attack battle, except that British naval units are added to the battle (no more than 12 ships, but they can be independent of or in addition to air units). Vichy French units are not prepared and therefore suffer the surprise –200 experience penalty (so for the French they would have 0 XP), but in this case they are allowed to move if enemy ships are also attacking them, but British Ships will be close enough to target them right from turn 1, and chances are they will be badly damaged by then. This is an available option as long as Vichy remains neutral, and does not cause a DoW, but it does anger Vichy and adds a +1 modifier to future diplomatic relations with Vichy.