

COAL, AND THE KAISER

1. INTRODUCTION

1.1. "Coal, and the Kaiser" is a naval warfare simulation portraying naval surface warfare in the period 1904-1918. The simulation presents aspects of this warfare through a series of scenarios.

1.2. Scenario generators provided with the game can be used to create scenarios typical for the time and place that the game covers.

1.3. The game presents these battles on a tactical, ship-to-ship level. The game is for two sides: each controlling the ships of a contending naval force. Ships are represented by 1/6000 scale miniatures, with any 4 foot by 6 foot level surface serving as a playing area. Movement and combat are conducted in accordance with these rules of play.

1.4. "Large Ships" and "Light Ships." In these rules, "large ships" means armored cruisers (CA), battlecruisers (BC), battleships (BB), and old battleships (OBB), while "light ships" means light cruisers (CL), protected cruisers (CP), torpedo boat destroyers (TBD), and torpedo boats (TB).

1.5. Gun Sizes. In these rules "big guns" means the main batteries of large ships -- guns of 8 inches caliber or larger. "Medium guns" described guns with bore sizes of 4.7 through 7.5 inches, while "light guns" range in bore size from 2.2 through 4.1 inches.

2. GAME EQUIPMENT

2.1. The Playing Area. A level surface with dimensions of about four feet by six feet should be selected as a playing area. Players may wish to cover the area with a sheet of blue felt. This adds atmosphere and, more practically, keeps the playing counters or miniatures from shifting. One inch on the playing surface equals 1,000 yards.

2.2. Charts and Tables. Various charts and tables are provided on separate sheets. Generally, these charts and tables are used in conjunction with dice to determine the results of actions taken by the players and the ships that they control.

2.3. Playing Pieces. The cardboard playing pieces (called "counters") should be punched out of the counter sheet and sorted by color and type. There are several types of counters:

2.3.1. 3/4 inch by 2 inch force markers, used to mark the position of unseen ships;

2.3.2. 1/2 by 3/4 inch torpedo markers showing the location from which torpedoes were launched and their direction;

2.3.3. illumination counters of various types, showing illumination by searchlight, starshell and fire;

2.3.4. number and hit counters for gunfire combat;

2.3.5. contact counters showing contact by visual sighting; and

2.3.6. smoke counters.

2.4. Miniatures. The 1/6000 scale miniature ships used to play the game should be placed on 1.5 inch bases for cruisers and 2 inch bases for battlecruisers and battleships. Torpedo boat destroyers and torpedo boats are initially based on 1 inch long bases, or in groups of up to 5 on bases 2 inches long. Bases should be wide enough to include some method of identifying the ships based on them.

2.5. Dice. Some twenty sided, ten-sided dice and six-sided dice are required to play the game. These rules refer to ten-sided dice as D10, or as D100 when rolled as percentile dice. Twenty-sided dice are referred to as D20 and six-sided dice as D6.

2.6. Templates. Five templates are used to determine the arcs of weapons and the turning radii of ships.

2.7. Other Equipment. The players should also have a ruler and a tape measure graduated in inches. These will be used to measure ranges and to regulate movement. A protractor will also be helpful to measure angles.

3. SEQUENCE OF PLAY

3.1. Setting up the Game. The players should select or generate a scenario, then complete formation, allocate ship counters, and place ship and force counters on the playing surface as the scenario set-up instructions direct. Once placement is complete, play may begin. When completing log sheets, each player assigns a unique number to each ship in his force with big guns. This number will correspond to a number counter, which in turn will be used to designate the target of the ship assigned the number.

3.2. The Game-Turn. The game is played in a series of sequential game-turns, each composed of sequential segments. Segments are always conducted in the order set out below. One game-turn equals four minutes of elapsed time.

3.3. Game-Turn Segments.

3.3.1. Movement Plotting Segment -- For scenarios with a variable sighting base, the sighting base for the turn is rolled. Each player plots movement for his ships, designating any ships that will make smoke. Each player plots torpedo launches.

3.3.2. Movement Segment -- Each player checks for reactions from light ships subject in the previous turn to fire from the secondary batteries of large ships. Each player places new torpedo launch markers on the playing surface, moves his ships as plotted, and considers whether torpedoes have intercepted their targets.

3.3.3. Sighting Segment -- Visual sighting distances for each side are determined and visual searches are conducted for each ship.

3.3.4. Illumination Segment -- ships illuminate sighted ships with searchlights or starshells.

3.3.5. Gunfire Segment -- Players determine which of their ships will fire guns, and designate their targets. Players alternate selecting targets for big gun batteries ship by ship, with the player with the most ships starting the process. The process continues until all ships firing have designated targets. Players dice to see which player allocates the fire of his medium and light guns first. Note that the effects of gunfire are not resolved until the Damage Segment. Players track hits on targets by placing D6s beside each target with the upward-pointing face of the die denoting the number of hits scored. If a big gun battery scored the hit(s), place the die on top of the number marker corresponding to the firing ship. Note that separate dice may be needed to track non-penetrating hits on a target.

3.3.6. Torpedo Segment -- Where torpedoes have intercepted their targets, players determine whether hits have resulted. Players check to see if any large ship torpedo attacks occur.

3.3.7. Damage Control Segment -- Each player secretly and simultaneously resolves attempts to repair damage to his ships.

3.3.8. Damage Segment -- Each player secretly and simultaneously determines damage caused by gunfire and torpedo hits on his ships during the turn. For hits by big guns, place the die denoting the hit(s) under the number marker of the firing ship.

This shows that the firing ship hit the target in the turn.

3.4. Half Moves. (Optional) Whenever opposing ships are at 5 inches range or closer, and at least one of the ships has sighted an opponent at that range, either player may declare that play will be resolved by half-moves. Each half move represents 2 minutes of elapsed time. The following rules apply to these half moves.

3.4.1. Half moves are numbered by decimals -- either .0, to correspond to a move beginning at the same time as a whole move, or .5, to correspond to a move halfway through a whole move. For example, half move 12.0 is a half move corresponding to the start of whole move 12.

3.4.2. Ships and torpedoes move half of their usual movement allowance during a half move.

3.4.3. For ships with no opposing ships within 5 inches, the only .5 half move phases are movement phases.

3.4.4. Ships with opposing ships within 5 inches may also plot torpedo attacks, spot, illuminate, fire guns and take damage during any half move.

3.4.5. Ships firing guns in a half move when within 5 inches of an enemy ship have their hit numbers halved (for big guns) or values halved (for medium and light guns).

3.4.6. Gunfire modifications for turning firers and targets are doubled during a half move. This doubling is accomplished by halving the degrees turned for the modifiers to apply.

3.5. Range and Bearing Conventions.

3.5.1. If counters are used, ranges are measured from any part of one counter to any part of the other. Weapon bearings are measured from the center of the counter side.

3.5.2. If miniatures are used, ranges are measured from forward funnel to forward funnel but weapon bearings are checked from the forward stack of the firer (or center dot of a torpedo marker) to any part of the target ship.

4. SIGHTING

4.1. General. A ship may only fire guns or torpedoes at ships that it has currently sighted. Also, ships may not depart from pre-plotted movement until at least one enemy ship is sighted.

4.2. Time for Sighting. Sighting is determined in the sighting segment, the illumination segment, and the damage segment. In the illumination segment, illumination of an enemy ship may result in more friendly ships spotting it. In the damage segment, fires may increase the range at which a ship is spotted.

4.3. Sighting. Sighting range is determined each game-turn as provided in the scenario being played. Enemy ships within a ship's sighting range are automatically sighted. Force counters of sighted formations are replaced by counters (or miniatures) for the ships in the formation.

4.4. Sighting Duration. A ship remains visually sighted until it cannot be seen by any enemy ship.

4.5. Illumination. Illumination attempts may be made in the illumination segment. Any ship which has sighted an enemy ship may illuminate it in one of two ways:

4.5.1. A ship may illuminate one enemy ship each turn with its searchlights. German searchlights have a range of 4 inches for light ships and 5 inches for large ships. All other searchlights have a range of 3 inches for light ships and 4 inches for large ships.

4.5.2. A ship may illuminate one enemy ship each turn by firing starshell from one of its gun mounts. Starshell is effective to a range of 15 inches. Starshell is fired from the secondary batteries of large ships and the main batteries of light ships. A battery firing starshell may also fire normally. German ships may use starshells beginning in 1916. Other navies have them starting in 1918.

4.6. Smokescreens. Smokescreens block line of sight. Guns and torpedoes may not be fired through them. All ships may make smokescreens. Making smokescreens is plotted in the Movement Plotting Segment. Smoke is represented by blank counters or cotton wool placed behind the smoke-producing ship as it moves. Smokescreens persist for 2 turns in calm weather or 1 turn in moderate wind and are then removed. Smokescreens are ineffective in high winds.

4.7. Land. Land blocks line of sight. Guns and torpedoes may not be fired through it.

5. **MOVEMENT.**

5.1. Divisions. Ships generally move in groups called "divisions," with players plotting moves division by division. For historical scenarios, the composition of these divisions is set by

scenario rule. For generated scenarios, players use the following rules to form divisions themselves.

5.1.1. All torpedo boats and destroyers are grouped into divisions of 3 to 6 ships. If more than 4 of these ship types are present on a side, each division is mounted on a single base. (See 2.4.) Light cruisers are grouped into divisions of 1 to 4 ships. All warships larger than light cruisers are organized into divisions of 2 to 4 ships.

5.1.2. Merchant ships usually move in a single division called a convoy. It is a series of parallel columns of ships, with at least as many columns as there are ships in each column (e.g., a ten ship convoy would be organized as two columns of two ships and two columns of three ships). A convoy may execute ship turns only.

5.1.3. Players complete a division record sheet for each for division they command, noting the flagship of each division.

5.2. Formations. Players may group divisions into larger formations by extending the configuration of 1 division by subsequent divisions. For example, a player could create a formation by placing one division of ships steaming in a line behind another division of ships steaming in line. Players are free to create and disband formations at any time.

5.3. Flotillas. Torpedo boat and torpedo boat destroyer divisions were commonly grouped into larger formations called flotilla. Flotillas often had a light cruiser as a leader and flagship.

5.3.1. If a light cruiser is acting as flag of a formation, it must lead the formation.

5.3.2. Flotillas may freely change from line ahead formation (with each division following the leader in line) to line of bearing formations (with the formations of the flotilla steaming parallel to each other).

5.3.3. When moving a flotilla that is changing formation, determine the division that has the longest to move. Move it at the flotilla's movement speed, then move the other divisions into the new formation.

5.3.4. When plotting a formation change to a line of bearing formation, note the orientation of the formation in the plot by noting the degree line along which the formation will form. Note also the interval between the divisions of the flotilla. A flotilla can form an "arrowhead" formation around the lead ship or formation by plotting two lines of bearing.

5.4. Movement Allowances. Each ship has a movement allowance expressed in the number of inches that the ship can move across the playing surface in 1 turn.

5.5. Acceleration Limits. Ships need not always move at their maximum speeds. However, they may be limited in their ability to increase their speeds in any 1 game-turn.

5.5.1. All torpedo boat destroyers and torpedo boats may increase their speeds by 2 inches in 1 game-turn.

5.5.2. All light cruisers and battlecruisers may increase their speeds by 1 inch in 1 game-turn.

5.5.3. All other ships may increase their speeds by 1/2 inch in 1 game-turn.

5.6. Turn Radii. Various sizes of ships have differing turning radii, as noted on the turn guides provided with the game. A ship entitled to use a smaller radius may always elect to use a larger radius.

5.7. Movement Plotting. All ship movement is plotted in the Plotting Segment. Movement plotting is usually done by divisions. Various maneuvers may be plotted.

5.7.1. Divisions may move straight ahead. A player plots straight-ahead movement simply by noting the number of inches moved.

5.7.2. All ships of a division may turn simultaneously in the same direction. This is called a "ships turn." A player may plot a ships turn by writing a letter indicating the direction of the turn and the degrees turned. A "SR" (ships right) indicates a right turn, a "SL" (ships left) a left one. Degrees must be stated in numbers divisible by 15. Ship turns can be plotted to occur at any point during a game-turn's movement.

5.7.3. Each ship in a division may turn at a single specified point, following its predecessor. This is called a "column turn." Column turns are plotted like ships turns, but with "C" rather than an "S".

5.7.4. Divisions grouped into a formation may follow the lead division in the formation. Note the number of the division being followed and use an "F" to indicate that the division is following it.

5.7.5. Divisions in a formation can also mimic the actions of the lead division – that is, they carry out the same plotted maneuver at the same time. Note the number of the division being mimicked and use an "M" to indicate that the division is mimicking it.

5.7.6. Ships in a division with gaps between them may plot to "close up" the

formation. Plot a formation speed sufficiently slow that the trailing ships may close the gaps. Use "CU" to note that the formation is closing gaps.

5.7.7. Players may elect to plot a formation's movement 1 turn in advance. This confers a benefit when the formation checks to see if it follows orders. If the formation fails to follow orders, the player may cancel the move plotted in advance.

5.7.8. Movement plotting example: "1-CL60-1-SR30" indicates a move straight ahead of one inch, a 60 degree left column turn, two inches straight ahead, a 30 degree ships turn to the right and the balance of the move straight ahead.

5.8. Divisional Formation. Ships are considered part of a division if all of the following conditions are met:

5.8.1. They were organized as a division at the start of the scenario.

5.8.2. They are on the same base or are part of a chain of ships separated by no more than 2 inches between bases (or, for convoys, in a convoy formation).

5.8.3. Their speed is within 1 inch of the speed of the division flagship.

5.9. Division Movement. With the obvious exception of ships turns, all ships in a division follow the movements of the lead ship.

5.9.1. Each division has a designated flagship. A player may change the flagship designated for a division at any time, but the division must move straight ahead during the turn in which the substitution is made.

5.9.2. A ship that is not part of a division has its movement plotted separately. However, unless the ship is moving directly off the playing surface via a friendly edge, the independent movement appropriate for the type of ship is used to determine whether it moves as plotted.

5.9.3. A player may always plot individual movement for a ship, subject to the use of the Independent Movement Table.

5.10. Command and Control. Players must check to see if the formations and ships that they command follow their plotted orders.

5.10.1. A formation containing the force flagship always follows its orders. This includes a formation that consists of multiple divisions.

5.10.2. A formation receiving orders to move straight ahead at the same speed always follows that order. The same is true for a formation taking no movement action other than "closing up" its formation.

5.10.3. Formations not falling into the first two cases and all ships moving individually must roll to determine their actions. First, they roll to see if they received and understood their orders. Second, if they did not receive their orders, they roll to on the Independent Movement Table to see what action they take.

5.10.4. The Independent Movement Table refers to "repeaters." Repeaters are friendly formations closer to the formation checking command and to the force flag formation than the formation checking command is to the force flag formation. These repeater formations, located between a formation checking command and its force flag, are assumed to be passing on to checking formation any signals from the force flag.

5.10.5. All movement called for by the Independent Movement Table is made by divisions in column, not by individual ship turns.

5.10.6. If a new flagship is designated for a formation, that flagship's signaling and initiative ratings are the lesser of (a) 0 or (b) the ratings of the old flagship.

5.11. Collisions. When two ship miniatures occupy the same space at the end of a turn, there is a chance that they may collide. A collision takes place if a "1" is rolled on 1D10. Collisions are rolled for, and their results determined, at the instant that the two potentially colliding ship counters overlap. Consult the Collision Damage Table to determine the damage resulting. When a division risks a collision with a stationary ship, only the first ship in the division to meet the stationary ship risks collision.

5.12. Land. If a ship's pre-plotted movement (under 5.13) or independent movement brings it into contact with land, it may alter course sufficiently to avoid the land. If a ship's regular plotted movement brings into contact with land, it takes damage as if it rammed another ship bow-on.

5.13. Pre Contact Movement. For scenarios in which each side's strength is not known to the other side, each player's ships are represented on the playing surface by force markers at the beginning of play.

5.13.1. The composition of each force is known only to the owning player until the force is spotted by the opposition. Each marker represents one division.

5.13.2. Each player records the point at which each of his divisions begins on the

playing surface, and then plots 10 turns of movement for each force.

5.13.3. Each side's divisions follow their pre-plotted movement until one of them spots an enemy formation or ship. At that point, movement is plotted turn by turn for the side that spotted the enemy.

5.13.4. Individual ships are spotted at the visibility range given for the scenario.

5.13.5. Movement may not be plotted for individual ships before contact with the enemy, other than pickets designated by scenario rule.

5.13.6. Funnel Smoke. Most ships of this era used coal for propulsion, producing large quantities of smoke at high speed. If a formation of 2 or more large ships is moving within 1 inch of its top speed and an opposing force marker is within twice the normal visibility range, all opposing ships may plot their movement freely as if they spotted an enemy ship. This rule does not apply at night.

5.14. Quick Starts. Most scenarios begin with opposing ships on courses that will result in contact. To start a scenario quickly, players may simply designate starting speed for their divisions and extend their initial courses until contact occurs.

5.15. Reaction Movement. Fire from the secondary and light batteries of large ships may cause light ships to turn away even if they take no damage in game terms. When a formation of light ships has been fired on by the medium or light batteries of at least 1 large ship, check in the following Movement Segment to see if the formation turns away from the fire.

5.15.1. Check this by rolling 1D10 for each formation. If the roll is less than or equal to the total number of medium and light batteries that fired on the formation in the previous turn, the formation reacts to the fire immediately.

5.15.2. Initiative modifiers act as negative modifiers to this die roll – that is, if the die roll for a formation was 4 and the formation had a -1 initiative modifier, the die roll would be modified to 5.

5.15.3. A formation reacting in this way has its written movement cancelled, and instead moves directly away from the enemy large ship formation that fired the most medium and light batteries at it in the previous turn. The formation moves away at maximum speed. It is not required to move in a way that creates a risk of collision with another friendly formation.

- 5.15.4. Any torpedo launches for reacting formations are cancelled.
- 5.15.5. Players should use a number chit or D10 placed beside light ship formations to track the number of batteries firing on them.

5.16. *Flotilla Melees. (Optional) If during their movement two opposing groups of torpedo boats or torpedo boat destroyers find themselves within 5 inches of each other with no other larger ships in between them, both groups immediately stop their movement and turn so that they are presenting their broadside arcs to each other. Any light cruisers accompanying these ships are also affected by this rule. The following turn, the ships remain stationary (although they are considered to be moving at their maximum speeds) and exchange fire. The turn thereafter, the ships may move freely. Any light cruisers moving with the ships are subject to the same rule.*

6. GUN COMBAT

6.1. **General.** All ships carry guns, which may be fired at enemy ships in the Gunfire Segment. Each ship may fire its guns once each turn. Guns can only be fired at targets within their range. At night, guns cannot be fired at targets unless the targets are illuminated or on fire.

6.2. **Batteries.** All of a ship's guns are divided into "batteries." Guns are fired by batteries, and a battery of guns may be fired at one target each game-turn. Ships may have up to five gun batteries.

6.2.1. Big guns range in size from 8" bore to 15" bore. They are fired by rolling a series of D20s, as described below.

6.2.2. Medium batteries range in size from 4.7" bore to 7.5" bore. They fire using a odds system, as described below. A ship may have 1 medium battery on each side.

6.2.3. Light batteries range in size from 2.2" bore to 4.1" bore. Like medium batteries, they fire using a odds system. A ship may have 1 light battery on each side.

6.2.4. Each ship's data card shows information on batteries and guns carried by the ship.

6.3. **Sighting.** Guns may only be fired at targets which have been sighted. At night, the targets must also be illuminated, on fire, or firing in that turn.

6.4. **Bearing.** Key to gun combat is the concept of "bearing." Guns have limited arcs in which they may be pointed. These are referred to as the areas into which guns "bear."

6.4.1. The ship data cards express big guns' arcs by three numbers: for example, 2-4-2. The first number is the number of big gun mounts that can fire into the ship's bow arc, the second is the number of big gun mounts that can be fired into the ship's broadside arcs, and the third is the number that can be fired into her stern arc.

6.4.2. The ship data cards use 1 or 2 numbers to describe the arcs of secondary or light batteries. A single number indicates that the battery is mounted on the centerline of the ship, and can be fired into either of the ship's broadside arc. Two numbers separated by a slash (for example 24/24) indicates that the ship has 2 batteries – 1 on each side – and that they each fire into their respective broadside arc.

6.4.3. If a ship has no big guns, its other batteries can fire into its bow and stern arcs at ¼ of their usual strength.

6.4.4. The bow arc is the 60 degree arc centered on the ship's bow. The stern arc is the 60 percent arc centered on the ship's stern. The broadside arcs are the 120 arcs centered on each side of the ship.

6.5. **Gun Combat Resolution.** Different types of gun batteries use different methods of resolving combat.

6.5.1. **Big Guns.** Big guns shoot by rolling D20s successively up to three times. The three rolls are made against the modified "to hit" number of the firing battery, the modified target size of the target, and the penetration factor of the firing gun adjusted by the target's armor. For the first roll, roll a number of D20 equal to the number of mounts bearing. For each subsequent roll, roll a number of D20 equal to the number of successful rolls from the previous roll.

6.5.1.1. Assign each large ship a number and note that number on its data sheet. When the ship fires at a target, place a number counter for that ship's number next to the target.

6.5.1.2. When a large ship's big guns hit a target, place a D6 on the number counter of the firing ship next to the target, with the die face facing upwards denoting the number of hits. After the effects of the hits are determined, place the D6 under the number counter to denote that the target was hit that turn.

6.5.1.3. The Gunnery Modifier Chart shows the modifiers that may apply to basic to hit and target size values in certain circumstances.

6.5.1.4. Regardless of modifiers, a 1 is always a successful roll and a 20 is always a failure.

6.5.1.5. Where a ship data sheet shows 2 values for size or armor, the first value is the value used in big gun combat and the second value is the value used in torpedo combat.

6.5.1.6. Example: Asashi fires her 1-2-1 big gun battery at Retvizan at a range of 8 inches. No modifiers apply to the fire. At a range of 8 inches, each mount needs a 7 or less to hit. Retvizan is in Asahi's broadside arc, so 2 mounts bear. The Japanese player rolls 2 D20 for a 3 and a 9 – 1 possible hit. He then rolls 1 D20 against Retvizan's size factor of 11 and gets a 4 – still a possible hit. Finally he rolls against Asashi's main battery power rating of 18 adjusted by Retvizan's armor rating of -8, requiring a 10 or less for the hit to be effective. He rolls a 2, and places a D6 next to Retvizan on Asashi's number counter with the "1" face upward.

6.5.2. Medium and light gun batteries shoot by comparing their strengths to the defensive strength (not armor) of their target. The strengths of these batteries are found on the ship's data card. Divide the strength of the firing battery by the defense strength of the target. Round the result to the nearest whole number. The firing player must roll equal to or less than this number on a D10 to score a hit.

6.5.3. If the result is more than 10, automatically score hits equal to the "10s" number and roll for an additional hit at the value of the "1s" number. Example: on a result of 23, score 2 hits and roll 3 or less for a third.

6.5.4. Medium and light batteries can only cause non-penetrating hits against battleships, armored cruisers, and battlecruisers. This is covered in the damage section.

6.5.5. Medium and light batteries can add their strengths together to engage targets. A medium or light battery may not divide its strength against more than one target.

6.5.6. Medium or light batteries firing in extremely poor visibility (such as night) have their values halved.

6.5.7. Light batteries firing at targets other than torpedo boats, torpedo boat destroyers, and merchantmen have their values halved (or quartered, if they are firing in extremely poor visibility).

6.5.8. When the medium and light batteries of large ships fire at light ships, use a number chart or D10 to note the number of batteries firing at the formation. See 5.14 above.

6.5.9. Light and medium batteries never fire at ranges greater than 10 inches.

6.5.10. Light and medium batteries never fire at large ships that are the target of big guns in the turn.

6.5.11. *Optional: Roll against the ones and tenths digits on D100 to score a hit, instead of rounding the tenths and rolling against the ones digit on D10.*

6.5.12. Example: The Japanese 3rd Torpedo Boat Destroyer division has mis-read a signal and fall in beside a Russian column of protected cruisers consisting of Askold, Bogatyr, Boyarin and Novik. The Russians let fly at a range of 4 inches. The combined Russian medium and light battery strengths total 86. Each torpedo boat has a defensive strength of 4. 86 divided by 4 is 21.5, meaning that two T.B.D.s are sunk outright and another is sunk on a roll of 2 or less on a D10 (15 or less on a D100, if the optional rule is used).

7. TORPEDO COMBAT

7.1. General. Coal, and the Kaiser features 3 types of torpedo attacks: attacks by torpedo boats (TBs) and torpedo boat destroyers (TBDs), attacks by other ships, and *coup de*

gras attacks (delivered by any ship with torpedoes).

7.2. Firing Arcs. Light ships may only attack with torpedoes through their broadside arcs.

7.3. Sighting. Torpedoes may only be launched at targets that the launching ship has sighted. Illumination is never required to fire torpedoes, but torpedoes may not be fired through smokescreens.

7.4. TB and TBD Attacks. Players plot torpedo launches for light ships in the Movement Plotting Segment, and mark launches by counters placed on the playing surface adjacent to their launching ships at the start of the following Movement Segment. On a piece of scrap paper, record the turn of launch, the number torpedo factors launched, their target, the range to which they will run, the side from which the torpedoes are being launched, and the counter representing the spread. Example: "T4/6/KONIG/10/P/Q" means 6 factors of torpedoes were launched at Konig (or the formation of which Konig is a part) on turn 4. The torpedoes will run out to 10 inches, will be launched to port, and will be represented by counter Q.

7.4.1. For destroyers or torpedo boats mounted on 1 base, use 1 counter for all torpedoes launched to the same side in a single turn.

7.4.2. During the Movement Segment, torpedoes move towards their targets. All torpedoes move at a rate of 5 inches per turn. If they intercept their targets during the course of their movement. Torpedoes and their targets are considered to move simultaneously and proportionately. Hits are recorded for resolution in the Damage Segment. Other ships on the same line of bearing as the potential target (as measured from the dot of the attack counter at the end of the turn) are attacked by the torpedoes at half the normal hit number. Any successful attack results in the attack counter being removed.

7.4.3. Torpedo hits are resolved using the same 3 roll D20 procedure used to resolve big gun fire. Modifiers for big gun fire are not used. The basic to hit value for the attack is the value for the range band to which the torpedoes will run, even if the target is intercepted at a shorter range. This represents the fact that torpedoes running to a longer distance will be running at slower speeds throughout their runs. As with big gun combat, a 1 is always a

successful die roll, regardless of modifiers and a 20 is always a failure.

7.4.4. If the target is a ship in a formation, the torpedoes will randomly attack a ship from the formation. Select the actual target from all ships in the formation that could have been intercepted by the torpedoes in a Movement Segment.

7.4.5. Combing the Tracks. A common tactic to reduce the effectiveness of torpedo attacks was to turn bow or stern into the attack ("combing the tracks"), thus exposing the minimum width to the approaching torpedoes. A ship is considered bow or stern-on to an attack if a line drawn from the dot on the attack counter bisects the target at an angle of 30 degrees or less. This reduces the size of large ships to 4 and the size of small ships to 2 for resolving the attack.

7.4.6. A player can always place a dummy torpedo attack counter for any ship carrying torpedoes. The marker is revealed as a dummy when its "torpedoes" outrun all possible targets or come to the end of their runs.

7.4.7. Unless otherwise noted on its data card, a TB or TBD may not use torpedo factor more than once in a scenario. A light ship with more than 1 torpedo factor may fire those torpedo factors in separate turns.

7.4.8. Note that some ship may have different armor values for gun attacks and torpedo attacks.

7.5. Other Ship Attacks. Other ships equipped with torpedoes may attack enemy large ships with torpedoes if they are within torpedo attack range. The torpedo attack range of such a ship is found on its data card.

7.5.1. Whenever 1 or more ships are in torpedo attack range of enemy large ships in the Torpedo Segment of a move, roll 1 D10. On a roll of 1, a large ship torpedo attack may occur. If it does, immediately resolve an attack by 1 torpedo factor against 1 enemy ships within range of the attack. The "to hit" factor of such an attack is always 4 if the range is 5 inches or less, or 2 if the range is more than 5 inches but less than 10.

7.5.2. The target of the attack is the enemy large ship closest to an attacking ship. If more than 1 ship fits this description, determine the target large ship randomly by die roll from all of the closest ships.

7.5.3. The attack is resolved in the turn it is launched, regardless of the range to the target.

7.6. Coup de Gras Attacks. Torpedoes were a handy way of dispatching a crippled enemy. Any ship with torpedoes can deliver a *coup de gras* torpedo attack against any ship moving at a rate of 1" or less that ends its turn within 5 inches of the firing ship. Roll for hits in the Torpedo Segment and damage in the Damage Segment of the turn. Triple the to hit number for the attack. Note any torpedo factors used by light ships in *coup de gras* attacks.

7.7. Where a ship data sheet shows 2 values for size or armor, the first value is the value used in big gun combat and the second value is the value used in torpedo combat.

8. DAMAGE

8.1. General. In the Damage Segment, players determine the effects of gunfire and torpedo hits on their ships. Damage is determined secretly and simultaneously. Different types of ships suffer damage in different ways.

8.2. Large Ship Damage. Players resolve damage to large ships by using the Large Ship Damage Tables.

8.2.1. For big gun hits on large ships, roll on the Large Ship Damage Table appropriate for the ship to determine the effect of the hit. If the result calls for special damage, roll again on the Special Hits table for the large ship, which is found on its data charts.

8.2.2. For hits on large ships from medium batteries, light batteries or non-penetrating big guns, roll on the Non-penetrating Hits Table. A big gun hit is considered "non-penetrating" if the target's armor factor equaled or exceeded the penetration of the gun.

8.2.3. For each torpedo hit suffered by the large ship, roll on the appropriate Torpedo Damage Table and note the result.

8.2.4. Players record damage to ships in the margins of the ship data cards. Note the type of hit with a letter. A slash through the hit means that it has been repaired; a circle around it means that it cannot be repaired.

8.3. Light Ship Damage. Damage to light ships is also determined by rolls on damage tables. The effect of this damage is described in the damage tables for light ships.

8.4. Collateral Damage. Some damage may cause additional collateral damage to the ship

suffering them. These are described in the damage tables.

8.5. Fires. Fire have a number of effects.

8.5.1. If a ship has 3 or more fires burning, it may use no weapons and must reduce its speed to no more than 2.00 inches.

8.5.2. If a ship has 5 or more fires burning, the fires go out of control and the ship is abandoned.

8.5.3. In the Damage Control phase of each turn, roll 1D10 for each fire. On a 9, the fire causes another hit. On a 10, another fire starts. One of these die rolls (declared in advance) also counts as the damage control roll for fighting a fire.

8.5.4. At the end of a scenario, continue to roll to see if any fires burning at scenario's end go out of control.

8.6. Damage Control. A player may attempt to remove the effects of one hit or fire from each of his ships in the Damage Control Segment. Fires must always be put out before any other damage suffered by a ship is repaired.

8.6.1. Unless specifically provided for in scenario rules, a ship may remove the effects of one hit or put out one fire on a 1D10 roll of 1 or 2.

8.6.2. A roll of 9 or 10 on a damage control attempt means that the item being worked on is unrepairable.

8.6.3. If a ship is incapable of movement of the end of a scenario due to hits that could be removed through damage control, roll to see if damage control efforts are successful after the end of the scenario.

8.6.4. *Optional: Increase damage control number by 1 if all of the following conditions are met:*

8.6.4.1. *The ship did not using any of its weapons in that turn.*

8.6.4.2. *The ship was not fired upon.*

8.6.4.3. *If a fire is being fought, the ship's speed is 2.00" or less.*

8.7. Sinking Ships. A sinking ship does not sink during the scenario unless it is the victim of an explosion. It remains stationary on the playing surface, a hazard to navigation. It is considered sunk for scenario purposes, however, if its flooding hit maximum is reached or it succumbs to fire during the scenario or after it is over.

9. HISTORICAL SCENARIOS.

9.1. General. Historical scenarios are described in detail in the accompanying materials.

9.2. Special Rules. Scenarios have special rules. These override any game rules which they contradict.

9.3. Duration. Historical scenarios continue for 30 turns, or until one side has exited all of its ships capable of movement from its friendly mapside.

10. GENERATED SCENARIOS.

10.1. General. Generated scenarios may be produced in the following way.

10.1.1. Determine the visibility by the die rolls specified in the scenario set.

10.1.2. Each player secretly and simultaneously determines the composition of his forces using the Ship Type and Ship Class Tables.

10.1.3. Each player secretly and simultaneously decides his forces' distance and bearing from the center of the playing surface.

10.2. Set-up. Players place the divisions on the playing surface, representing each division with a force marker.

10.2.1. One division must be placed at the start location determined for that side under 10.1.3.

10.2.2. All other divisions of the same side must begin with one of their ships within six inches of this division.

10.2.3. If set up produces a situation in which opposing ships are within sighting distance of each other, the players move their ships backwards until the closest opposing ships are at the sighting limit for the scenario.

10.3. Initial Movement. Each side's initial course is towards the center of the playing area. Each side moves until it sights an enemy ship.

10.4. Length. All generated scenarios last 30 turns.

10.5. Victory Conditions. Generated scenarios are won on points.

10.5.1. Score 1 point for each enemy torpedo boat destroyer or torpedo boat incapable of movement or sunk at the scenario's end.

10.5.2. Score 2 points for each enemy light cruiser or protected cruiser incapable of movement at the scenario's end.

10.5.3. Score 4 points for each enemy light cruiser or protected cruiser sunk or armored cruiser incapable of movement at the scenario's end.

10.5.4. Score 6 points for each enemy armored cruiser sunk or enemy

battlecruiser or battleship incapable of movement at the scenario's end.

10.5.5. Score 12 points for each enemy battleship or battlecruiser sunk at the scenario's end.

10.5.6. Total the points which each side would receive for sinking all of the other side's ships. Subtract the smaller side's total from the larger, and add the difference to the smaller side's point score.

10.5.7. For victory point purposes, a ship is "incapable of movement" if permanent damage has reduced its speed to zero.

Designer's Notes

General Concept. Coal, and the Kaiser takes on big gun naval combat in the 1904-1918 period. It is a tactical game, with 4 minutes to the turn and 1000 yards to the inch. This yields gun ranges of out to 25 inches and movement allowances of 2 to 5 inches per turn.

Ship to ship combat in World War I makes a challenging game subject, for two reasons. First, there was damn little of it (at least compared to World War II). The really interesting scenarios are often "what ifs" of engagements that almost but did not quite take place. Second, when it did happen between big gun ships, it tended to include clouds of light cruisers and destroyers. This means that any game based on the actions has to include enough tactical details to model the big gun combat accurately without drowning in the details of managing and fighting the smaller units.

So what you see here is really a mix: some ideas taken from my complex *Fire on the Waters* World War II rules, some cribbed from my more simple World War II *Surface Action* rules, and a few new rules designed for the era. Chief among the new rules are rules that reflect the difficulty that fleet commanders had in making their orders understood and obeyed. While this period saw radio used effectively for scouting, it was a long way from replacing other means for signaling tactical orders. Fleets of the era relied on flag and signal systems that often broke down due to battle damage and the clouds of coal smoke and gun smoke obscuring the battle area.

I consider this game a beta version. I have played through a few scenarios using the system, generally making constant changes to the rules as I did. I now consider them good enough to inflict on my friends, so why should I exclude total strangers? The beta version of the rules explains the lack of scenarios,

although I have tried to include enough ships for any interested players to gin up “what if” engagements from the Russo-Japanese War and World War I.

Why “Coal, and the Kaiser” as the title? Two reasons, really. First, these were the two key ingredients for the naval aspects of World War I. Second, I’m not really very good at titles.