

# Sources

- [Simpleicon.com](http://Simpleicon.com)
- [Wikipedia.org](http://Wikipedia.org)
- Adam Burn

# Version 1.0

## Discussion

*Crew Expendable* is a science fiction base-building game with hidden information. It is inspired by *Red Alert* (from which it takes the power management mechanic), *Battleship* (from which it takes the mechanics of secretly deploying units on a grid, guessing where your opponent's units are, tracking them with a second grid, and attempting to destroy them), *Alien* (from which it takes the theme of corporate exploitation in space), and *Mass Effect* (from which it takes the concept of mass relays).

Iconography is my most important tool in teaching my players. I begin associating core concepts with their icons in the second sentence of my flavor text. The parenthetical icons are unobtrusive and subtle, designed to build unconscious associations that are hopefully useful later on.

I wanted my players to be able to start playing immediately, and do most of the learning as they build structures and play supply cards. As such, the rules are brief and general, and most of the information players need is on my reference sheet and the cards themselves. *Small World* was an inspiration in this regard – it excels at hooking players with relatively simple mechanics, and slowly revealing its depth as players explore the different combinations of races and powers.

I keep my flavor text brief and let my mechanics tell the story. I deliberately allow a no-win ending because I think it tells a compelling story of self-destruction in the name of greed (and because it sets an upward limit on game length).

Like many European resource games, my game uses a dual-point track system (such that victory points are decoupled from currency, and victory points cannot be spent to buy more victory points) in order to reduce snowballing.

## Rulebook

*For 2 players.*

### Components

- 4 Camp Maps.
- 2 privacy folders.
- 2 Player Trackers.
- 1 Game Tracker.
- 2 decks of Supply Cards (🏠).
- Structure tokens.
- Ore chips (💰), in white, blue, and red denominations.
- Counters.

### Objective

- To build 5 Beacons (📡) before your rival does so *or* 20 days elapse.

### Set-up

- Place a Camp Map in front of you. Use a privacy folder to hide it from your rival.

- Use another camp map to keep notes on your rival's camp.
- Place your Player Tracker next to your Camp Map. Use a privacy folder to hide it from your rival.
  - Place a counter on (not above) each of the symbols: ⚡ 🔌 ⚙️ 🏠 🏡 📶
- Place the Game Tracker where both you and your rival can see it.
  - Place a counter on Day 1.
- Each player gets 1 deck of Supply Cards.
  - Shuffle it and place it face down.
- Each player gets 4 Ore.
- Decide who goes first in whatever fashion you please.

### Rules

- On each turn...
  1. Give yourself the amount of Ore (🏠) indicated on your player tracker. If you have no Refineries, give yourself 1 Ore.
  2. Draw as many Supply Cards (🏠) as you have Supply Depots. Discard Supply Cards after playing them.
  3. Build structures and play Supply Cards (🏠). You may perform both actions in any order, as many times as you wish.
  4. End your turn so your rival may take theirs. After you have both taken a turn, the day is over and you must advance the 📶 tracker.
- To build a structure...
  - There must be an empty tile for you to place the structure on.
  - Other than the Hub (⚙️), all structures must be adjacent to a Hub (above, below, left, right, or diagonal).
  - You must pay the structure's Ore (🏠) cost as indicated on the reference sheet.
  - You must be able to power the structure. Every time you build a Generator (⚡), advance the counter on your ⚡ track. Every time you build a power-consuming structure, advance the counter on your 🔌 track. When Generators and other structures are destroyed, remember to move the counters on these tracks down!
  - You must not exceed the maximum number of structures of a given type (as indicated on the reference sheet).

### End conditions

- A player has 5 Beacons (📶). That player is the winner.
- 20 days (📶) elapse. Both crews are vaporized.

# Version 2.0

## Discussion

**Renamed Components:** I renamed the Recon Drone to “Recon UAV” to reduce confusion with the Recycle Drone. I renamed the Game Tracker to “Calendar” to make it more specific, since the only variable it tracks is the current turn. I also started calling the secondary Camp Maps “Surveillance Maps” to give them flavor, increase immersion, tell players more about their purpose, and distinguish them from the primary Camp Maps. Finally, I renamed the Player Tracker to “Operations Monitor” for most of the same reasons, and to reduce confusion with the Surveillance Map, which is also for “tracking players” in a different way.

**Removed Sensor Array and made Operations Monitor permanently public:** Multiple players and TAs suggested my game was over-scoped and overcomplicated, and that I should find something to remove. I didn’t feel strongly either way, but I did want to make sure I was keeping an open mind, experimenting, and being willing to “kill my darlings.”

The Sensor Array, which revealed your rival’s Operations Monitor, seemed like a good candidate. On one hand, it didn’t seem to add enough “fun” to justify the complexity it added. Of course, that’s a criticism I could probably make of other structures too, like the Hub and the Generator, but I wouldn’t want to cut those as well. I think base-building games need a certain minimum level of complexity to be interesting, and in that way, those structures are worth more than the sum of their parts.

However, the Sensor Array had other problems that the Hub and Generator didn’t. Having the Monitor public seems to confer a lot of *experiential* benefits, like reducing player effort (e.g., there’s no need to memorize how many Cannons your rival has so you know when to use your Infrared Countermeasure, when you can just glance at their Monitor) and improving pacing and anticipation (if you know your rival is 1 point away from victory, the last few turns can be tense and exciting, but if you don’t, your defeat could come out of nowhere as a sudden and jarring shock). However, it didn’t seem to confer enough *mechanical* benefits (i.e., those that increase players’ chances of winning) to incentivize the Sensor Array’s construction, meaning those experiential benefits might go unrealized.

**Removed Hydraulic Lift:** By design, some cards are more effective than others (for example, the Recycle Drone is mostly for new players who made a mistake and need to revise their base). However, in v. 1.0, the Hydraulic Lift could not be used for its intended purpose, which was to move structures out of harm’s way between their discovery via Recon UAV and their destruction via Artillery Strike. This is because most players will use Artillery Strike immediately after using Recon Drone (a sound strategy I had no desire to interfere with). The most logical solution was to simply remove Hydraulic Lift, especially given that Recycle Drone makes it redundant. Both get rid of one of your structures, but Recycle Drone offers more flexibility – instead of returning a copy of the structure you delete, it refunds the Ore cost, which can be immediately spent on a copy (or any other structure).

**Tied Ore payouts to Calendar updates:** In playtest 1, players almost never remembered to update the Calendar. This shouldn't have surprised me – players have a limited amount of focus, and they're going to keep it on details that help them win, like currency. In v. 2.0, I used this to my advantage, by making players update the Calendar before they could get their daily Ore payout.

**Closed rule hole:** My v. 2.0 rules didn't explain what happens when an artillery strike causes a player's power consumption to exceed their power generation. I decided that in such cases, players may not build new structures, but their existing structures will continue to function. This was the simplest solution (since there's no system for determining which Generators power which structures), and it also provides a proportionate level of punishment (essentially acting as an EMP until the Generators are rebuilt, instead of destroying or interfering with up to 4 structures, which would be excessive).

**Stipulated that EMP must be used at the beginning of your opponent's turn:** One of my v. 1.0 players was concerned that when players use EMP, which prevents their opponent from building on their next turn, the opponent might not remember that it was used (especially since hidden information keeps the player who used EMP from enforcing it). I solved this by stipulating that EMP can only be used at the beginning of your opponent's turn.

**Limited Artillery Strike and Infrared Countermeasure to one use per turn:** I limited Artillery Strikes to one use per turn to discourage stockpiling and prevent bases from getting completely demolished in single turns. I similarly limited Infrared Countermeasures to discourage stockpiling, prevent players from completely stopping large artillery barrages, and provide a discoverable heuristic about the order of Artillery Strikes (when possible, players should strike lower value targets first to burn their rival's countermeasures).

**No writing on second camp map:** I now have players place game pieces on the Surveillance Map instead of writing on it. This eliminates the need for erasing and allows Surveillance Maps to be reused.

**Added arrows to Operations Monitor:** At the suggestion of my testers, I added arrows to the power consumption track on the Operations Monitor to streamline the interface and reduce confusion.

**Added explanations to game boards:** In v. 1.0, the reverse sides of the Camp Map, Surveillance Map, Operations Monitor, and Calendar gave the components' names and visibility (public or private). I expanded this information to include the components' functions, as well as some flavor text.

**Colored structures:** I added color to structure pieces, which were previously in black and white. Color made the information on the board more readable at a glance. To the best of my ability, I picked colors that complemented the structures' functions (i.e., red for the structure that lets you attack, green for the structure that gives you money, etc.).

## Rulebook

For 2 players.

### Components

- 2 Camp Maps.
- 2 Surveillance Maps.
- 2 privacy folders.
- 2 Operations Monitors.
- 1 Calendar.
- 2 decks of Supply Cards (🏠).
- Structure tokens.
- Ore chips (💰), in white, blue, and red denominations.
- Counters.

### Objective


- To build 5 Beacons (📡) before your rival does so *or* 20 days elapse.

### Set-up

- Place a Camp Map in front of you. Use a privacy folder to hide it from your rival.
- Place a Surveillance Map next to your camp map. It does not need to be hidden.
- Place your Operations Monitor where both you and your rival can see it.
  - o Place a counter on (not above) each of the symbols: ⚡🔍🏠💰🎯📡
- Place the Calendar where both you and your rival can see it.
  - o Place a counter on Day 1.
- Each player gets 1 deck of Supply Cards.
  - o Shuffle it and place it face down.
- Each player gets 4 Ore in any denomination (see reference sheet for denominations).
- Decide who goes first in whatever fashion you please.

### Rules

- At the beginning of each day (excluding day 1), increment the Calendar (📅) and give yourself the amount of Ore (💰) indicated on your Operations Monitor. If you have no Refineries, give yourself 1 Ore.
- On each turn...
  1. Draw as many Supply Cards (🏠) as you have Supply Depots. Discard Supply Cards after playing them.
  2. Build structures and play Supply Cards (🏠). You may perform both actions in any order, as many times as you wish.
- To build a structure...
  1. There must be an empty tile for you to place the structure on.
  2. Other than the Hub (⚙️), all structures must be adjacent to a Hub (above, below, left, right, or diagonal).
  3. You must pay the structure's Ore (💰) cost as indicated on the reference sheet.
  4. You must be able to power the structure. Every time you build a Generator (⚡), advance the counter on your ⚡ track. Every time you



build a power-consuming structure, advance the counter on your  track.

- i. When Generators and other structures are destroyed, remember to move the counters on these tracks down!
- ii. If your Generators are destroyed, causing your power consumption to exceed your power output, your existing structures will continue to function, but you cannot build new structures until you have sufficient power.

5. You must not exceed the maximum number of structures of a given type (as indicated on the reference sheet).

- As you learn about your rival's camp, update your Surveillance Map as you would your own.

#### **End conditions**

- A player has 5 Beacons (). That player is the winner.
- 20 days () elapse. Both crews are vaporized.

# Version 3.0

## Discussion

**Removed Supply Depot:** I cut the Supply Depot from the game in order to:

- Reduce complexity (i.e., for the same reason I removed the Sensor Array).
- Reduce variance in outcomes. Supply Cards are a lifeline, and in v. 1.0 and 2.0, if players didn't figure that out by day 2 (and many wouldn't, because it's not an obvious heuristic), they were about to waste an hour without any chance of winning. Losing your Supply Depot in the opening game could have similar results. The bottom line is, I made Supply Cards too useful to not give players equal access to them.
- Along those lines, 2 cards per turn is excessively beneficial, and many players wouldn't have realized that during their first game (or early enough in their first game).

It should also be noted that without the Supply Depot and Sensor Array, the maximum power output of 20 per turn became sufficient to build the maximum number of Refineries, Cannons, and Beacons. This lessens the trade-off between Cannons and Refineries, but importantly, it prevents players from building 5 of each and then realizing that they can't build enough Generators to also power 5 Beacons.

**Pyrite Ore:** These improved the presentation of my game, enhanced immersion in the theme, and made their function more self-evident so as to expedite teaching. Unlike poker chips, pyrite minerals don't come in denominations, but I found that my game didn't need them. At most, players make 6 Ore per turn, and on most turns they'll end up spending all of it. On the downside, I discovered that pyrite (or at least the stuff I bought) is really dirty because no matter how many times I washed it, it always crumbles and makes more dust. I like to think that high-stakes extraterrestrial mining is a dirty business, literally and figuratively, so maybe I can write this off as a realism-enhancing feature.

**New board:** The Warehouse helps players organize their components, and provides visual set-up instructions.

**Added cards to manual:** I discovered that card functions were not the kind of information I could leave for players to find out later. Some core mechanics don't make any sense without seeing them (especially in early versions when Artillery Striking was tied to a card). First-time players might play radically different depending on their knowledge of the deck (e.g., balancing rows/columns to hide from Recon UAVs), which varies depending on whether they looked at the cards before play started, and the order in which they draw them. Repeat players shouldn't be punished if they can't remember the specific nuances of certain cards (e.g., does the Recon UAV target rows or columns?). In later versions, cards in the manual were especially important because they helped players understand the different Orbital Strike patterns.

**Recon UAV targets rows instead of columns, offers one retry:** In playtest 2, Josh used a Recon UAV to no effect, and it felt very anticlimactic and wasteful.



Targeting rows improved the usefulness of Recon UAVs by revealing 14.29% of the board, instead of 11.11%.

**Temperatures on Calendar:** I added temperatures to the Calendar to enhance theming and give the game a sense of escalating tension. The temperatures start out in a normal range for Earth's moon and increase at an accelerating pace. I'm not actually sure if that's how solar flares work, but none of my players objected.

**Added language stipulating no maximum hand size:** Not only is this an important rule and a common question, it also frames Supply Cards in a way that should prevent misunderstandings like Bryan's, who in playtest 2 thought they were non-optional "event" cards.

**Stipulated that the last player to get a sunburn goes first:** This allowed me to slightly enhance my theme, add a bit of morbid humor, and shorten and streamline the rules.

**Specified that Artillery Strike card required a minimum of 1 Cannon:** In playtest 2, Josh was certain that he could use Artillery Strike without any Cannons, so I specified on the Artillery Strike card that this was not the case.

## Rulebook

*For 2 players.*

### Components

- 2 Camp Maps.
- 2 Surveillance Maps.
- 2 Operations Monitors.
- 2 Warehouses.
- 1 Calendar.
- 2 privacy folders.
- 2 decks of Supply Cards (🏠).
- Structure tokens.
- Pyrite Ore chips (🪨).
- Counters.

### Objective

- To build 5 Beacons (📡) before your rival does so *or* 20 days elapse.

### Set-up

- Place your Camp Map, Surveillance Map, Operations Monitor, and Warehouse in front of you.
  - o Use a privacy folder to hide your Camp Map from your rival. The other 3 boards should be visible to your rival.
  - o On the Operations Monitor, place a counter on (not above) each of the symbols: ⚡ 🦋 🪨 🏠 📡
  - o On the Warehouse, place a large pile of Ore on the Ore Field and 4 Ore on Ore Storage. Shuffle a Supply Card deck and place it face-down on the Draw Pile.
- Place the Calendar between you and your rival.

- o Place a counter on Day 1.

- The player who most recently got sunburned goes first.

### Rules

- At the beginning of each day (excluding day 1), increment the Calendar (☞) and give yourself the amount of Ore (☙) indicated on your Operations Monitor. If you have no Refineries, give yourself 1 Ore.
- On each turn...
  1. Draw 1 Supply Card (☛). You may hold onto as many Supply Cards at a time as you wish. Discard Supply Cards after playing them. See the last page of the manual for Supply Card descriptions.
  2. Build structures and play Supply Cards (☛). You may perform both actions in any order, as many times as you wish.
- To build a structure...
  1. There must be an empty tile for you to place the structure on.
  2. Other than the Hub (⚙), all structures must be adjacent to a Hub (above, below, left, right, or diagonal).
  3. You must pay the structure's Ore (☙) cost as indicated on the reference sheet.
  4. You must be able to power the structure. Every time you build a Generator (⚡), advance the counter on your ⚡ track. Every time you build a power-consuming structure, advance the counter on your 🔌 track. When Generators and other structures are destroyed, remember to move the counters on these tracks down! If your Generators are destroyed, causing your power consumption to exceed your power output, your existing structures will continue to function, but you cannot build new structures until you have sufficient power.
  5. You must not exceed the maximum number of structures of a given type (as indicated on the reference sheet).
- As you learn about your rival's camp, update your Surveillance Map as you would your own.

### End conditions

- A player has 5 Beacons (☼). That player is the winner.
- 20 days (☞) elapse. Both crews are vaporized.

# Version 4.0

## Discussion

**Did not increase or decrease initial Ore reserves:** This wasn't a design change since I accidentally/intuitively went with 4 Ore in v. 1.0, but I realized that this was a good amount since it prescribes build orders for the first two days. On day 1, players have enough to build a Hub and a Generator, with 2 Ore left over. On day 2, the 1 Ore they receive gives them exactly enough to build a Refinery. I wanted my first 2 days to be busywork because it gives players time to become familiar with the mechanics before they have to start making important choices (unless they waste their Ore on additional Hubs and Generators, which unfortunately did happen in some playtests).

**More destruction:** The message from my players was clear – destruction was the most engaging part of my game, and I needed more of it. I knew that the best way to do this was to increase the *probability* of destruction occurring, not the effectiveness of that destruction, because extremely powerful destruction that only occurred a few times in a given game would likely give one player an unfair advantage. In the interest of time, I decided to do this in broad strokes by making a full 1/2 of Supply decks destruction cards, and by allowing Cannons to be used every turn. The cards I added were:

- Unstable Computer Virus: this was intended to be the “crazy train” option in my game. Initially, the punishment for rolling an 8 was to take away all of the players' Supply Cards and Ore. I realize that making 8 the bad outcome broke an implied rule, but the alternative – numbering rows 2 through 8 – seemed much less elegant. This is the most random element in my game, but since it's a Supply Card, players don't have to use it if they don't want to.
- Orbital Strikes: these cards destroy 2 tiles, which is slightly less than 1/2 of the maximum number of Cannon shots per turn. However, they are constrained by prescribed tile patterns, which I think makes them more interesting.

I consider the added destruction a catch-up feature since the Unstable Computer Virus and the Orbital Strikes are equally available to players, do not require any structures to use, and are more effective against the player who has built more structures. A side effect of these additions is that they require players to spread out more (in order to avoid grouping their structures together in easy targets for the Orbital Strikes, and in order to avoid placing too many structures in the same rows), which requires more Hubs, which requires slightly more Ore. A counterbalance to the added destruction cards is that they lowered the probability of drawing Recon UAVs, making most destruction blind (as in *Battleship*) rather than targeted.

Another benefit of the new destruction cards is that they increased the total number card types to 10. By including 2 of each card, this allowed me to have the total number of cards in the deck only slightly exceed the number of turns on which players draw cards. This reduces variance in card draws, ensures that players will get to use almost all of the cards by the end of the game, and ensures that players won't draw the same card more than 2 turns in a row.

**Made Recon UAVs target columns again:** Since the Unstable Computer Virus targets rows, it made sense to have Recon UAVs target columns again, in order to present a trade-off between protection against Unstable Computer Viruses (which may not be necessary if your opponent is too cautious to use them) and protection against Recon UAVs.

**Spaced out structure rules:** My rules contained a wall of text (“To build a structure...” #4), so I broke it up in the interest of readability.

**Increased Beacon cost:** I increased the Ore cost of Beacons from 4 (4.5 including power consumption) to 5 (5.5 including power consumption) in order to prevent victory point rushes and force players to use my other mechanics.

**Stipulated that structures cannot be moved:** This rule should have been present all along, but it was especially important now that the Hydraulic Lift was gone, since that implied that structures could not normally be moved (assuming players happened to see that card).

**Added flavor text to end conditions:** I added flavor text to the end conditions to provide a sobering tone, invoke sympathy for one’s rival, and frame the mining firms as the real enemies.

**Required recharge between EMPs:** Not being able to build on 2 days in a row is absolutely devastating, especially in the opening game when players need to be rapidly growing their economies.

**Changed timing of Supply Card draw from beginning of turn to beginning of day:** Having players draw cards at the same time they collect Ore is simpler and streamlined. It also elegantly prevents players from using Supply Cards on their first turn, which could give them unfair early leads.

## Rulebook

*For 2 players.*

### Components

- 2 Camp Maps.
- 2 Surveillance Maps.
- 2 Operations Monitors.
- 2 Warehouses.
- 1 Calendar.
- 2 privacy folders.
- 2 decks of Supply Cards (📄).
- Structure tokens.
- 1 8-sided die.
- Pyrite Ore chips (🪙).
- Counters.

### Objective

- To build 5 Beacons (📡) before your rival does so *or* 20 days elapse.

### Set-up



- Place your Camp Map, Surveillance Map, Operations Monitor, and Warehouse in front of you.
  - Use a privacy folder to hide your Camp Map from your rival. The other 3 boards should be visible to your rival.
  - On the Operations Monitor, place a counter on (not above) each of the symbols: ⚡ 🔦 🔧 🔦 🔦
  - On the Warehouse, place a large pile of Ore on the Ore Field and 4 Ore on Ore Storage. Shuffle a Supply Card deck and place it face-down on the Draw Pile.
- Place the Calendar between you and your rival.
  - Place a counter on Day 1.
- The player who most recently got sunburned goes first.

### Rules

- At the beginning of each day (excluding day 1), increment the Calendar (📅), draw 1 Supply Card (📄) from your deck, and give yourself the amount of Ore (🪙) indicated on your Operations Monitor. If you have no Refineries, give yourself 1 Ore.
- On each turn you may...
  1. Build structures and play Supply Cards (📄). You may perform both actions in any order, as many times as you wish.
  2. Bombard as many tiles at your rival's camp as you have Cannons. If your rival has structures on the tiles you select, they must tell you what they are, and then remove them from the board.
- To build a structure...
  1. There must be an empty tile for you to place the structure on.
  2. Other than the Hub (⚙️), all structures must be adjacent to a Hub (above, below, left, right, or diagonal).
  3. You must pay the structure's Ore (🪙) cost as indicated on the reference sheet.
  4. You must be able to power the structure. Every time you build a Generator (⚡), advance the counter on your ⚡ track. Every time you build a power-consuming structure, advance the counter on your 🔦 track.
  5. You must not exceed the maximum number of structures of a given type (as indicated on the reference sheet).
- You may hold onto as many Supply Cards at a time as you wish. Discard Supply Cards after playing them. See the last page of the manual for Supply Card descriptions.
- Structures cannot be moved.
- When structures are destroyed, remember to decrement the affected tracks on your Operations Monitor (e.g., if you lose a Generator, move the ⚡ track down 1).
  - If your Generators are destroyed, causing your power consumption to exceed your power output, your existing structures will continue to function, but you cannot build new structures until you have sufficient power.

- If one of your Hubs is destroyed, structures already built off that Hub will be unaffected, but no new structures can be built off the destroyed Hub.
- As you learn about your rival's camp, update your Surveillance Map as you would your own.

**End conditions**

- A player has 5 Beacons (). That player's crew escapes the exo-moon, surviving to confront and expose their firm. Inquests will be held. The incinerated miners will not be forgotten.
- 20 days () elapse. Both crews are vaporized, along with the truth.

# Version 5.0

## Discussion

**Transparent counters:** I replaced my opaque counters with transparent counters so players can actually read their Operations Monitors.

**Permanent tile destruction:** I made it so that attacking tiles with Cannons or Orbital Strikes rendered them unusable. The main motivation for this was to reduce memorization – players need to be able to mark their Surveillance Map to reflect which tiles they’ve fired on (as in *Battleship*), but that information isn’t useful if their rival can build on those tiles later. This change was risky because it meant that the space was always shrinking, and that players might run out of room for building, but fortunately that didn’t occur during testing.

**Wood structure tokens:** I glued my structure tokens onto wooden *Scrabble* tiles to improve presentation and usability.

**Specified number of each card type in deck in rules:** Like showing the card descriptions in the manual, this gave players more information on which to make informed decisions.

**Specified that Recon UAV reveals precise contents of columns:** In Playtests 2 and 4, players were unsure whether they needed to reveal the *exact* contents of each tile in a UAV’d column, so I specified that they did.

**Adjusted sample map:** My sample map was leading players to believe that they could build chains of structures, not that they could build diagonal to Hubs. I made sure that diagonal-to-Hub structures were not adjacent to any orthogonal-to-Hub structures in order to clear this up. I also reduced the total number of structures on the sample map to make it more readable.

**Overhauled Operations Monitor:** I added text to the Operations Monitor where before there were just numbers (e.g., “4 power generated” instead of just “4”). I spelled out “Victory Point” instead of just writing “VP” because I realized that not all players are familiar with that acronym. I thickened the vertical lines between the tracks to more clearly distinguish them. Finally, I added some sorely-needed text to explain the Operations Monitor in the rulebook.

**Gave example of how to use Cannon:** Some of my players were unsure about how specifically to use the Cannon, so I gave an example in the rules.

**Made Unstable Computer Virus riskier:** The initial version of this card, which took away all of the player’s Supply Cards and Ore if they rolled an 8, was too low-risk (and that risk was easily circumvented, as players could just spend all their Ore and play all of their Supply Cards before using it). Instead, I gave it a “hot potato” dynamic, such that rolling 8s would alternate the target of the virus.

**Added turn phases:** Unstructured turns gave players more flexibility, but breaking turns down into phases made it easier for them to remember to use all of their abilities.

**Added space between Ore Field and Ore Storage on Warehouse:** This decreased the likelihood of piles getting merged.

## Rulebook

*For 2 players.*

### Components

- 2 Camp Maps.
- 2 Surveillance Maps.
- 2 Operations Monitors.
- 2 Warehouses.
- 1 Calendar.
- 2 privacy folders.
- Wooden structure tokens.
- 2 decks of Supply Cards (🗺️).
- 1 8-sided die.
- Pyrite Ore chips (🪙).
- Transparent counters.

### Objective

- To build 5 Beacons (📡) before your rival does so *or* 20 days elapse.

### Set-up

- Place your Camp Map, Surveillance Map, Operations Monitor, and Warehouse in front of you.
  - Use a privacy folder to hide your Camp Map from your rival. The other 3 boards should be visible to your rival.
  - On the Operations Monitor, place a counter on (not above) each of the symbols: ⚡ 🔫 🪙 🗺️ 📡
  - On the Warehouse, place a large pile of Ore on the Ore Field and 4 Ore on Ore Storage. Shuffle a Supply Card deck and place it face-down on the Draw Pile.
- Place the Calendar between you and your rival.
  - Place a counter on Day 1.
- The player who most recently got sunburned goes first.

### Rules

- At the beginning of each day (excluding day 1), increment the Calendar (📅), draw 1 Supply Card (🗺️) from your deck, and give yourself the amount of Ore (🪙) indicated on your Operations Monitor. If you have no Refineries, give yourself 1 Ore.
- Each turn consists of 3 phases:
  1. **Supply phase:** Play as many Supply Cards (🗺️) as you wish.
  2. **Build phase:** Build as many structures as you wish by placing the appropriate tiles (see reference sheet) on your Camp Map.
  3. **Cannon phase:** Bombard as many tiles at your rival's camp as you have Cannons by announcing the tiles' columns and rows (for example,



**"I shoot at B-1 and F-6")**. If your rival has structures on the tiles you select, they must tell you what they are, and then remove them from the board.

- To build a structure...
  1. There must be an empty tile for you to place the structure on.
  2. Other than the Hub (⚙️), all structures must be adjacent to a Hub (above, below, left, right, or diagonal).
  3. You must pay the structure's Ore (🪙) cost as indicated on the reference sheet.
  4. You must be able to power the structure. Every time you build a Generator (⚡), advance the counter on the ⚡ track **on your Operations Monitor**. Every time you build a power-consuming structure, advance your ⚡ track. **If you build a Refinery, Cannon, or Beacon, advance the 🪙, ⚙️, or 📡 track, respectively.**
  5. You must not exceed the maximum number of structures of a given type (as indicated on the reference sheet).
- You may hold onto as many Supply Cards at a time as you wish. Discard Supply Cards after playing them. See the last page of the manual for Supply Card descriptions. **Each deck contains 2 of each card.**
- Structures cannot be moved.
- When a tile is hit by Cannon fire or an Orbital Strike (but *not* the Unstable Computer Virus), it is rendered unusable. Place a blank structure token there to reflect this.
- When structures are destroyed, remember to decrement the affected tracks on your Operations Monitor (e.g., if you lose a Generator, move the ⚡ track down 1).
  - If your Generators are destroyed, causing your power consumption to exceed your power output, your existing structures will continue to function, but you cannot build new structures until you have sufficient power.
  - If one of your Hubs is destroyed, structures already built off that Hub will be unaffected, but no new structures can be built off the destroyed Hub.
- As you learn about your rival's camp, update your Surveillance Map as you would your own.

### End conditions

- A player has 5 Beacons (📡). That player's crew escapes the exo-moon, surviving to confront and expose their firm. Inquests will be held. The incinerated miners will not be forgotten.
- 20 days (🕒) elapse. Both crews are vaporized, along with the truth.

# Version 6.0

## Discussion

**Changed turn phase order:** I changed the order of turn phases to Supply – Cannon – Build for 2 reasons:

1. It seemed logical for Orbital Strikes and Cannons to follow one another.
2. Placing the Build phase after the Cannon phase requires players to wait a turn before they can use their new cannons. This encourages a slightly longer-term strategy.

**Added advanced set-up option:** I added this option for experienced players to speed-up the opening game, and to predefine their playstyle (much like picking a class in an RPG).

**Suggested use for letters on backs of blank tokens:** Having letters on all my blank structure tokens was not a design decision, but I wanted to give players a way to make the most of it.

**Added set-up image:** I added a set-up image to visually teach players how to set-up my game.

**Revised briefing:** I updated the briefing to include 3 important story points:

- The exo-moon's Ore is extremely rare, which explains why the firms are throwing away expensive equipment and personnel to get it.
- Communications are out, which explains why players can't just request evacuation or merge their teams.
- Some Ore is automatically teleported back to the firms, which explains how the firms are making a profit when their mining crews aren't expected to return home.

**Stipulated that structures cannot be removed:** I foresee this question coming up more with permanent tile destruction, since usable space becomes extremely limited by the endgame.

## Rulebook

*For 2 players.*

### Components

- 2 Camp Maps.
- 2 Surveillance Maps.
- 2 Operations Monitors.
- 2 Warehouses.
- 1 Calendar.
- 2 privacy folders.
- Wooden structure tokens.
- 2 decks of Supply Cards (📄).
- 1 8-sided die.
- Pyrite Ore chips (🪨).

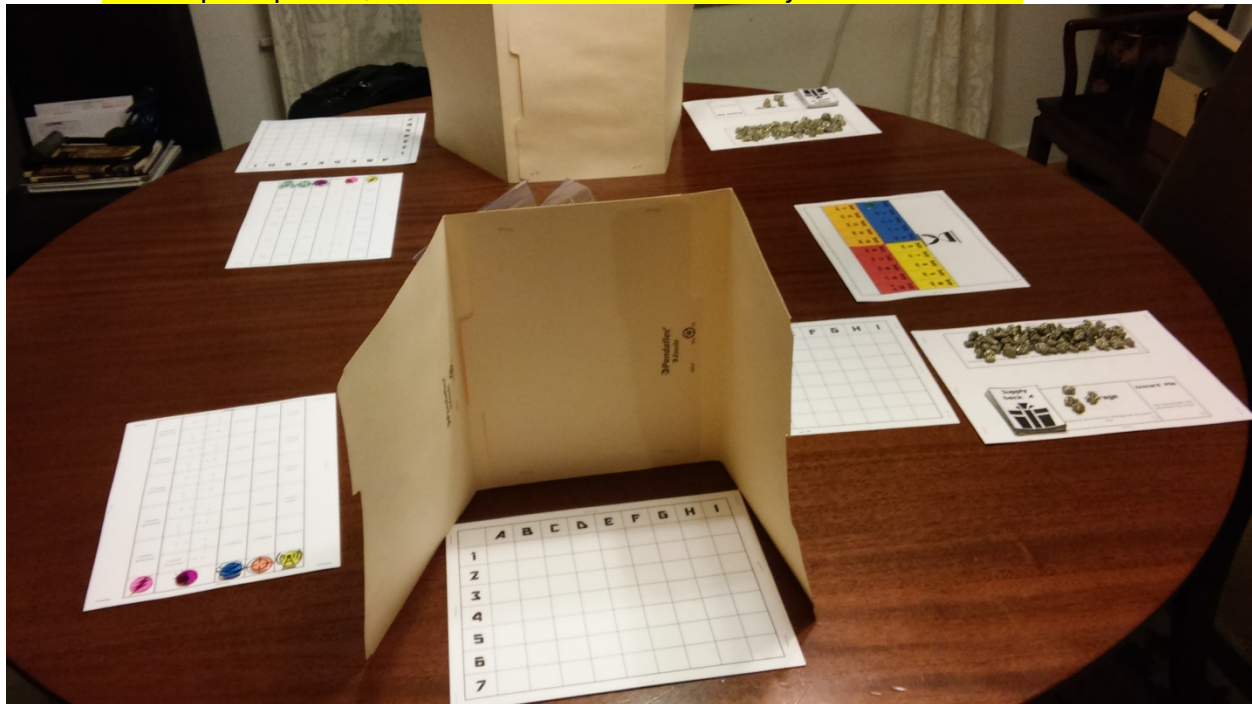
- Transparent counters.

### Objective

- To build 5 Beacons (📡) before your rival does so or 20 days elapse.

### Set-up

- Place your Camp Map, Surveillance Map, Operations Monitor, and Warehouse in front of you.
  - Use a privacy folder to hide your Camp Map from your rival. The other 3 boards should be visible to your rival.
  - On the Operations Monitor, place a counter on (not above) each of the symbols: ⚡ 📡 🏠 🎯 📡
  - On the Warehouse, place a large pile of Ore on the Ore Field and 4 Ore on Ore Storage. Shuffle a Supply Card deck and place it face-down on the Draw Pile.
- Place the Calendar between you and your rival.
  - Place a counter on Day 1.
- The player who most recently got sunburned goes first.
- **Advanced set-up:** start with a free Refinery or Cannon. The structure does not require power, and does not need to be adjacent to a Hub.



*Sample set-up: from left to right are the Operations Monitor, the Camp Map (hidden by the privacy folder), the Surveillance Map, and the Warehouse. Between the players is the Calendar.*

### Rules

- At the beginning of each day (excluding day 1), increment the Calendar (📅), draw 1 Supply Card (📄) from your deck, and give yourself the amount of Ore (🏠) indicated on your Operations Monitor. If you have no Refineries, give yourself 1 Ore.
- Each turn consists of 3 phases:

- 1. Supply phase:** Play as many Supply Cards (📦) as you wish.
  - 2. Cannon phase:** Bombard as many tiles at your rival's camp as you have Cannons by announcing the tiles' columns and rows (for example, "I shoot at B-1 and F-6"). If your rival has structures on the tiles you select, they must tell you what they are, and then remove them from the board.
  - 3. Build phase:** Build as many structures as you wish by placing the appropriate tiles (see reference sheet) on your Camp Map.
- To build a structure...
    - 1.** There must be an empty tile for you to place the structure on.
    - 2.** Other than the Hub (⚙️), all structures must be adjacent to a Hub (above, below, left, right, or diagonal).
    - 3.** You must pay the structure's Ore (🪙) cost as indicated on the reference sheet.
    - 4.** You must be able to power the structure. Every time you build a Generator (⚡), advance the counter on the ⚡ track on your Operations Monitor. Every time you build a power-consuming structure, advance your 🪙 track. If you build a Refinery, Cannon, or Beacon, advance the 🪙, 📶, or 📶 track, respectively.
    - 5.** You must not exceed the maximum number of structures of a given type (as indicated on the reference sheet).
  - You may hold onto as many Supply Cards at a time as you wish. Discard Supply Cards after playing them. See the last page of the manual for Supply Card descriptions. Each deck contains 2 of each card.
  - You cannot move or remove your own structures without a Recycle Drone card.
  - When a tile is hit by Cannon fire or an Orbital Strike (but *not* the Unstable Computer Virus), it is rendered unusable. Place a blank structure token there to reflect this.
  - When structures are destroyed, remember to decrement the affected tracks on your Operations Monitor (e.g., if you lose a Generator, move the ⚡ track down 1).
    - If your Generators are destroyed, causing your power consumption to exceed your power output, your existing structures will continue to function, but you cannot build new structures until you have sufficient power.
    - If one of your Hubs is destroyed, structures already built off that Hub will be unaffected, but no new structures can be built off the destroyed Hub.
  - As you learn about your rival's camp, update your Surveillance Map as you would your own.
    - Optionally, you may use the letters on the backs of blank structure tokens to help you remember what you destroyed (for example, place an "H" where you destroy a Hub so you'll remember to target the surrounding tiles).

## End conditions

- A player has 5 Beacons (📡). That player's crew escapes the exo-moon, surviving to confront and expose their firm. Inquests will be held. The incinerated miners will not be forgotten.
- 20 days (🕒) elapse. Both crews are vaporized, along with the truth.