

Nuclear Power Plant Simulator 2013

User Manual

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Introduction

Nuclear Power Plant Simulator 2013 (NPPS13) is a real time simulation game where you THE OPERATOR take control of a nuclear power plant. Your task is to maintain stable electricity generation to generate as much electricity as you can. However you are constantly working against technical difficulties, such as components of the power plant failing and bugs in the operating software of the plant. Will you be able to combat these failures to prevent nuclear disaster?

In NPPS13 as well as combating the computer in single player, you will now face the challenge of averting disaster caused by a saboteur within the plant in all new MULTIPLAYER mode. Compete against your friends to see who the most efficient Operator is and who is the most devious Saboteur.

System Requirements & Installation

Single player:

- Keyboard & Mouse
- Java Runtime Environment (JRE) 7 Update 4 or newer.
- Display resolution greater than

Multiplayer:

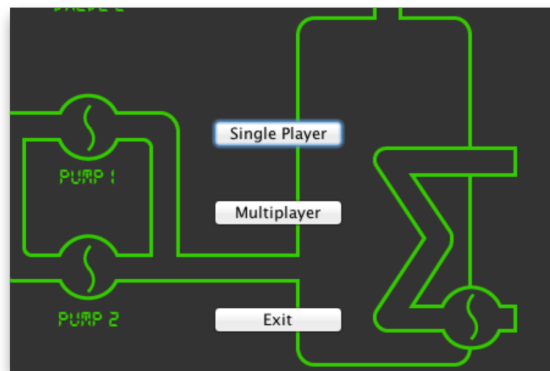
- Two machines complying to single player requirements
- Local Area Network (LAN) connection between two machines.
 - Via Wi-Fi/Ethernet/Direct Ethernet Connection

Installation

- Download game.
- Navigate to download location.
- Double click NPPS13.jar to launch the game.
 - Alternatively type "java -jar NPPS13.jar" into the command console (without quotes)
- PLAY!

Playing a game

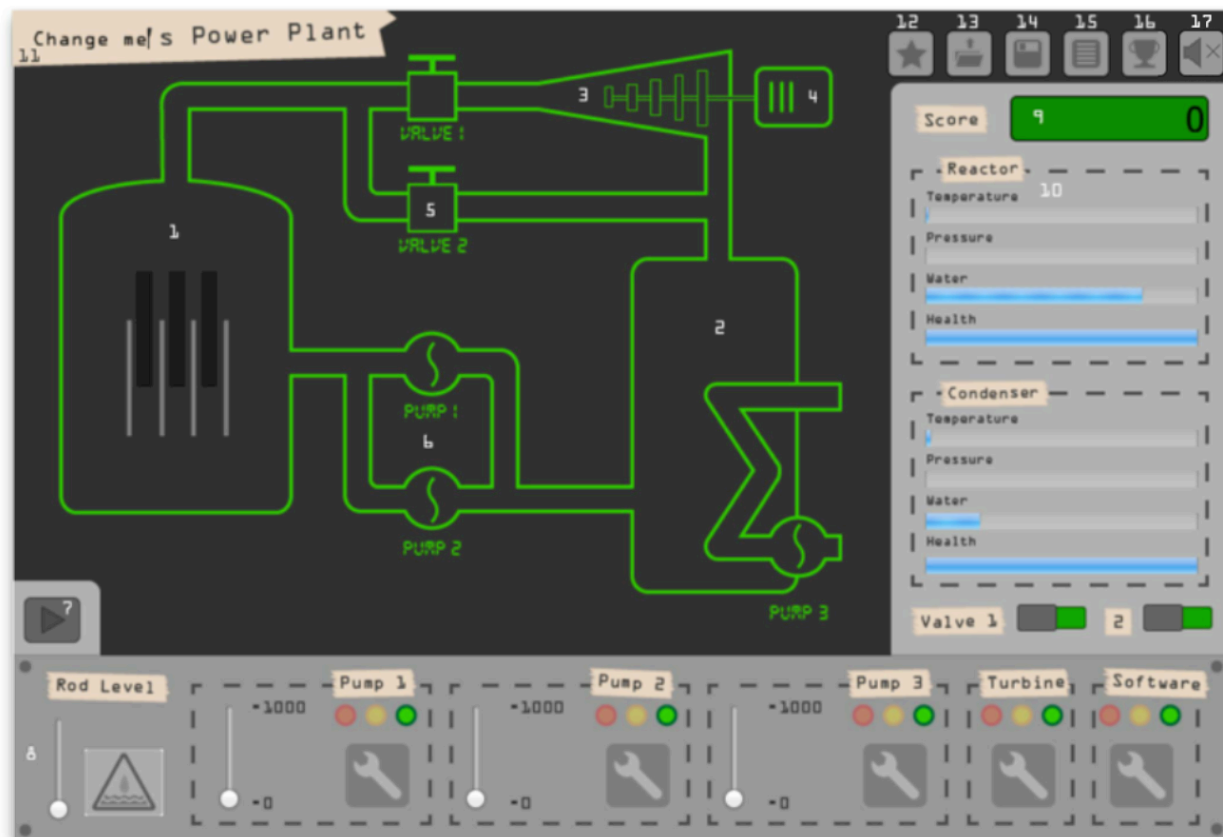
Initially when Nuclear Power Plant Simulator 2013 opens you are faced with a menu with a choice of single player, multiplayer or exiting the game.



Single Player

After clicking the single player option from the opening menu you will be presented with the following game window. This game window includes a diagram of the plant, a control panel to the bottom and readout column to the right.

The aim of the game is to produce as much power as possible without the reactor failing with the power output acting as the final score. As the player you can control the valves, pumps and control rods to try and maintain a safe pressure and temperature while producing power.



1. This is the Reactor, the most important component of the plant. If the reactor fails it's game over. The reactor will fail if the temperature or pressure gets too high. As the player, you can control the level of the control rods within the reactor to affect the temperature which then affects the pressure.
2. The Condenser is used to cool the steam from the reactor. The flow of steam into the condenser depends on the temperature and pressure of the reactor and the positions of the valves. The flow of the water from the condenser to the reactor is controlled by its pumps.
3. This is the turbine; it converts the flow of steam from reactor to condenser into energy for the generator. The speed of the turbine is affected by the pressure in the reactor and condenser and whether valves 1 and 2 are open.
4. The Generator turns the speed/energy from turbine into electricity then outputs the power from the plant.
5. Valves are used to control the flow of steam around the system and are important for controlling the pressure of the system.
6. Pumps are used to control the flow of water in the system. These helps to cool the reactor down.
7. This button is used to play/pause gameplay. Every 1/2 second the game will progress one step.
8. This is the control panel where all the commands can be performed. The various commands exist as slides and buttons.
9. This is the score which increases with the power output.
10. This is the information panel. It includes updates about the condition of the plant such as the various temperatures and pressures and whether the valves are opened or closed.
11. This is where you can enter your name.
12. This button is used go back to the main menu.
13. This button is used to load a saved game.
14. This button is used to save the current game.
15. This is the help menu from here you can look at the manual for instructions.
16. This button is used to look at the leader boards for the game.
17. This is the mute button for muting/ unmuting the game music.

Plant Commands

Set Control rods



This slider alters the levels of the control rods in the reactor. The level of the rods is on a 0-100 scale with 0 being the slider all the way down and 100 being the slider all the way up. The higher the control rods the faster the temperature the pressure of the reactor will increase.

Quench Reactor



The button beside the control rod slider controls quenching the reactor. This means to empty a tank of cold water into the reactor to instantly cool it down to prevent a plant meltdown. This command is only available when the reactor's temperature is nearing critical level, and once used cannot be used again. To warn you of the impending danger the light will glow green when quench is

available to use.

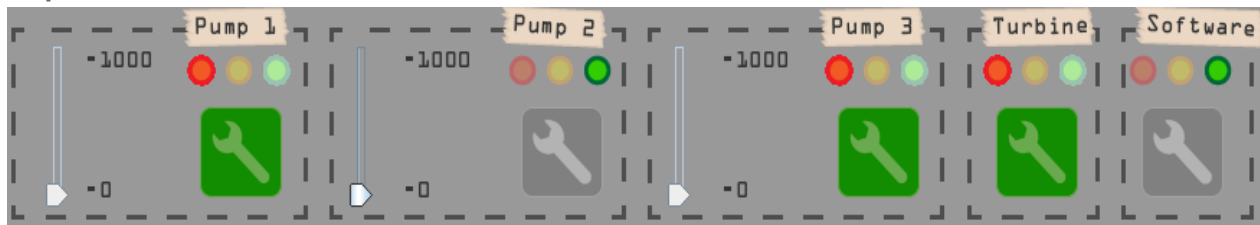


Pump Controls



The slider for each pump controls that pump's RPM (Revolutions per Minute). The RPM of pumps can be set anywhere between 0 and 1000, 0 when the slider is at the bottom and 1000 when the slider is at the top. Pumps 1 and 2 control the flow of water from the condenser to the reactor (cooling the reactor down) and pump 3 controls the cycle of water to/from the cooling towers of the plant and the condenser, cooling the steam entering the condenser back to water.

Repair Controls



The spanner buttons on the control panel are used to repair the components they belong to. When they are greyed out it means that the component is not broken. When the button is green it means that the component needs repairing. The lights above the buttons represent the state it's in. A green light means it is working, amber is being repaired and red is broken. When a pump is broken its rpm control is disabled and is set to 0. When the turbine breaks steam flow is diverted around it by opening/closing the valves. When the Operator Software if the plant fails the other controls of the plant may malfunction, giving unexpected results.

Valve controls



These switches are used to switch the valves between the reactor, turbine and condenser on and off. Valve 1 controls flow to the turbine whereas

Valve 2 controls flow straight from the reactor to the condenser. When the turbine fails Valve 1 will close and Valve 2 will open.

System Commands



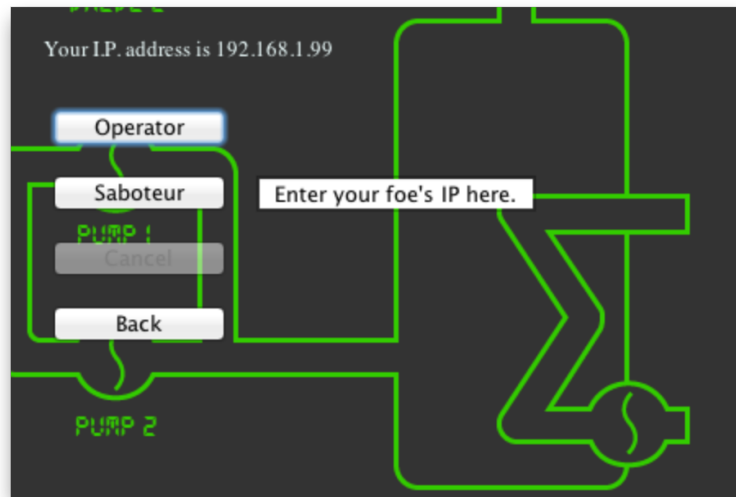
These buttons are used to start a new game, load and save the game, open the manual and view high scores respectively. When hovered over a tooltip will appear that

gives the function of the button.

Multiplayer

Connecting to a friend

After clicking the Multiplayer button from the initial menu you are then given the screen below. This is where you connect to your friend over LAN. To return to the main menu screen press back.



Choosing Operator

The IP address of the machine you are on is labelled "Your IP Address"; you will need to tell this to the person playing as the saboteur.

Click the OPERATOR button, and wait for player two to connect to you. If you no longer wish to play as operator click cancel.

Choosing Saboteur

Enter the IP address that the person playing as the operator has given you into the text box. After the Operator has clicked the OPERATOR button you click the SABOTEUR button, this will connect you to player one. If you no longer wish to play as the saboteur press cancel before the connection has been established.

Once connected to the other player you will see a game screen which looks almost identical to the single player game.

Playing as Operator

When playing as the operator the gameplay and controls are identical to that when playing single player. However you cannot save or load games.

Playing as Saboteur

When playing as the saboteur you do not control the plant, the sliders and buttons only show what the operator has set them to. What you do have however is the ability to break components.

Breaking a Component

Use the same buttons that you would use to repair a component to break it when playing as the saboteur. You can only break a component that is not already broken and not in the process of being repaired.

Available Sabotages

As the saboteur you are limited to the amount to which you may break components. You gain a sabotage every ten steps of the game (5 seconds) to a maximum of 3 sabotages. You may only break components when you have available sabotages to use.

Game Over

If you don't keep an eye on the readings of your power plant the situation will get bad resulting in the plant catastrophically exploding. The causes of a catastrophic explosion are simple; the Reactor or Condenser health being reduced to 0.

The health of the Reactor and the Condenser will reduce over time due to three conditions: Exceeding the maximum temperature and pressure or the Reactor being empty of water. The more extreme the situation (incredibly high temperature or multiple problems for example) will reduce the health faster.

At the time when the Reactor or Condenser has no health, they will rupture, causing a nuclear meltdown, destroying the plant and ending the game.

Hints & Tips

- Aggressive players get burnt.
- Love the flow.
- Save Up.
- Direction makes a difference.
- Low is slow.

FAQs

My friends are unable to connect to me when I am the operator?

This is most likely caused by your firewall, disable it (including windows firewall) and try again.

I get an error saying I haven't entered a valid IP address?

Valid IP addresses consist of 4 numbers between 0 and 255 separated by periods (.), an example would be 123.123.123.123

I get an error saying unable to connect to operator?

There are several reasons why this may have been.

- 1 You entered an IP address which was not that of the computer the operator is playing on: Recheck you have entered the correct address.
- 2 The saboteur button should be clicked after the operator has clicked their operator button.
- 3 A firewall is blocking the connection: Disable all the firewalls on both Operator's and Saboteur's computer (including windows firewall).

- 4 Another application is using the same ports (9000 to 9003) as this game: Close all other running applications to fix this.

I get an error saying that the connection timed out?

The causes of this error are the same as for the previous question.

When playing multiplayer I get an error saying Lost Connection with other player?

There are two reasons for this error;

- 1 The other player has closed their game
- 2 A problem with your network connection caused the games to disconnect.

When playing multiplayer pressing play & both operator and saboteur commands have no effect?

This is caused by a firewall blocking the connection between the two games: Disable all firewalls on both computers and try again.

Game won't save / Game won't load / high scores are missing / manual won't open?

If the game jar is saved in a location where it does not have permission to save files (such as on the desktop) it won't be able to do these functions: Move the game to your documents or somewhere where it will have permission to write files. Alternatively run the game as an administrator.