CLAIMS

[Claim 1]

A control system comprising:

an area function setting unit configured to set an area usage method at a predetermined time for each of a plurality of areas in a pit where materials to be incinerated are deposited;

an operation setting unit configured to set an operation mode for each of a plurality of cranes; and

a control unit configured to control each of the plurality of cranes based on a combination of the area usage method set by the area function setting unit and the operation mode set by the operation setting unit,

wherein the plurality of areas include at least a first area and a second area, and

the area function setting unit is configured to

set an acceptance destination area where an input of the materials to be incinerated into a hopper of an incinerator is prevented and the materials to be incinerated are accepted, to the first area and set an input area where the materials to be incinerated are input into the hopper, to the second area as the area usage method at a first time, and

set the input area for the first area and set the acceptance destination area for the second area as the area usage method at a second time different from the first time,

the plurality of cranes include at least a first crane and a second crane, and

the operation setting unit is configured to

set an acceptance mode where the input of the materials to be incinerated into the hopper is prevented and the materials to be incinerated are accepted, to the first crane and set an input mode where the materials to be incinerated are input into the hopper, to the second

crane as the operation mode at the first time, and

set the input mode to the first crane and set the acceptance mode to the second crane as the operation mode at the second time.

[Claim 2]

The control system according to claim 1,

wherein a plurality of types of work including acceptance work of accepting the materials to be incinerated and restacking work of restacking the materials to be incinerated are associated with the acceptance mode,

a plurality of types of work including input work of inputting the materials to be incinerated into the hopper and restacking work of restacking the materials to be incinerated are associated with the input mode, and

the control unit is configured to

switch work to be executed among the plurality of types of work associated with the acceptance mode based on a request from the incinerator or a detection result of one or more sensors in relation to a crane set in the acceptance mode among the plurality of cranes, and

switch work to be executed among the plurality of types of work associated with the input mode based on a request from the incinerator or a detection result of the one or more sensors in relation to a crane set in the input mode among the plurality of cranes.

[Claim 3]

The control system according to claim 2, further comprising:

a setting reception unit configured to receive a setting by an operator,

wherein, as a mixing method of the materials to be incinerated, one or more of vertical mixing, moving mixing, and moving and scattering mixing is executed in association

with at least one type of work among the plurality of types of work associated with the acceptance mode or the input mode based on the setting received by the setting reception unit or a detection result of the one or more sensors.

[Claim 4]

An operation planning method for a plurality of cranes that are operated in a storing section of materials to be incinerated, the operation planning method comprising, by a computer:

registering a plurality of area usage methods to be set for a plurality of areas in a pit of the storing section;

registering a plurality of operation modes to be set for the plurality of cranes; and

selectively combining the plurality of area usage methods and the plurality of operation modes according to facility contents or an operation policy of the storing section to derive an operation plan of the plurality of cranes,

wherein the plurality of areas includes at least a first area and a second area, and

the plurality of area usage methods include

setting an acceptance destination area where an input of the materials to be incinerated into a hopper of an incinerator is prevented and the materials to be incinerated are accepted, to the first area and setting an input area where the materials to be incinerated are input into the hopper, to the second area as the area usage method at a first time, and

setting the input area to the first area and setting the acceptance destination area to the second area as the area usage method at a second time different from the first time,

the plurality of cranes include at least a first crane and a second crane, and

an acceptance mode where the input of the materials to be incinerated into the hopper is prevented and the materials to be incinerated are accepted is set to the first crane

and an input mode where the materials to be incinerated are input into the hopper is set to the second crane as the operation mode at the first time, and

the input mode is set to the first crane and the acceptance mode is set to the second crane as the operation mode at the second time.