

FIG.1

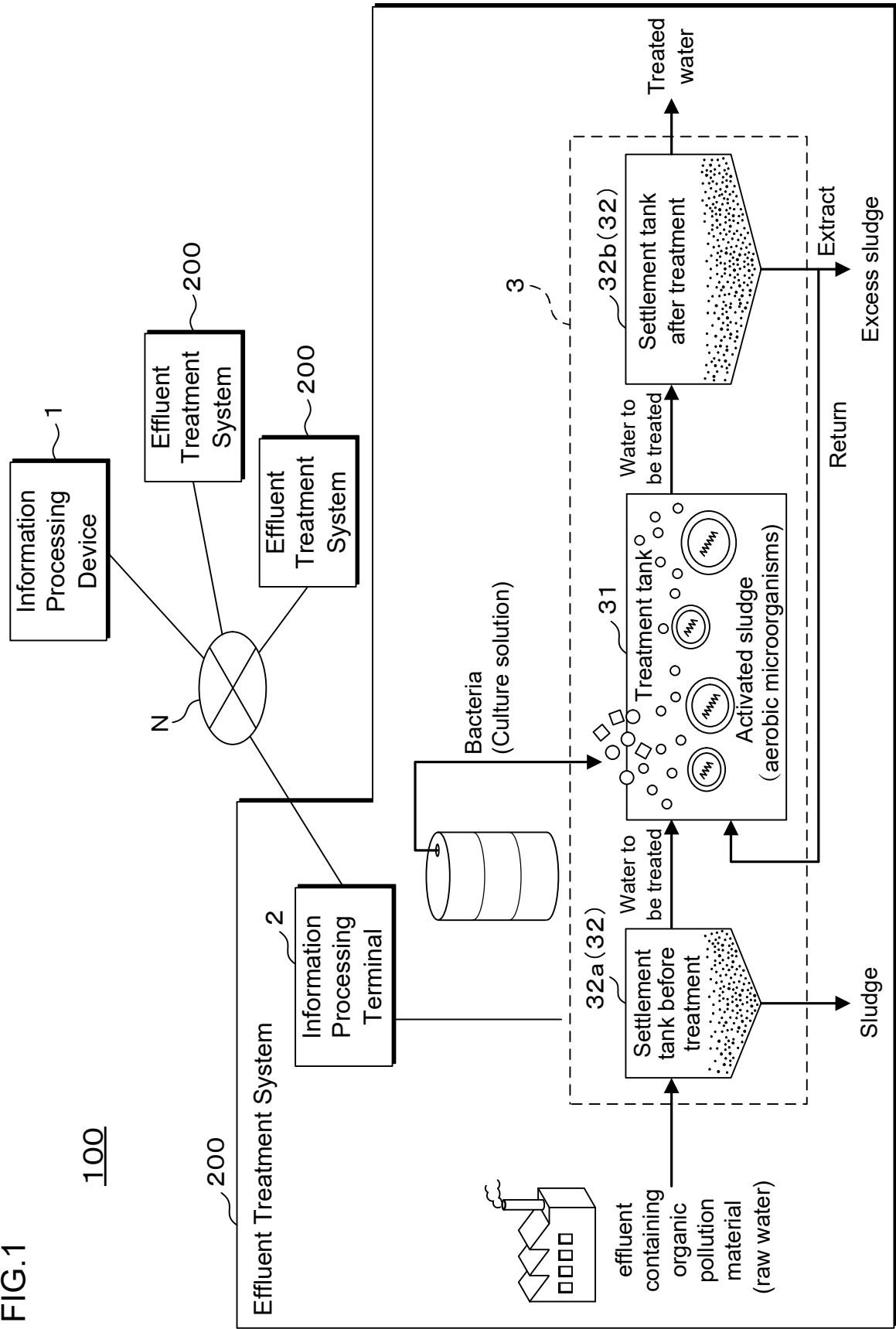


FIG.2

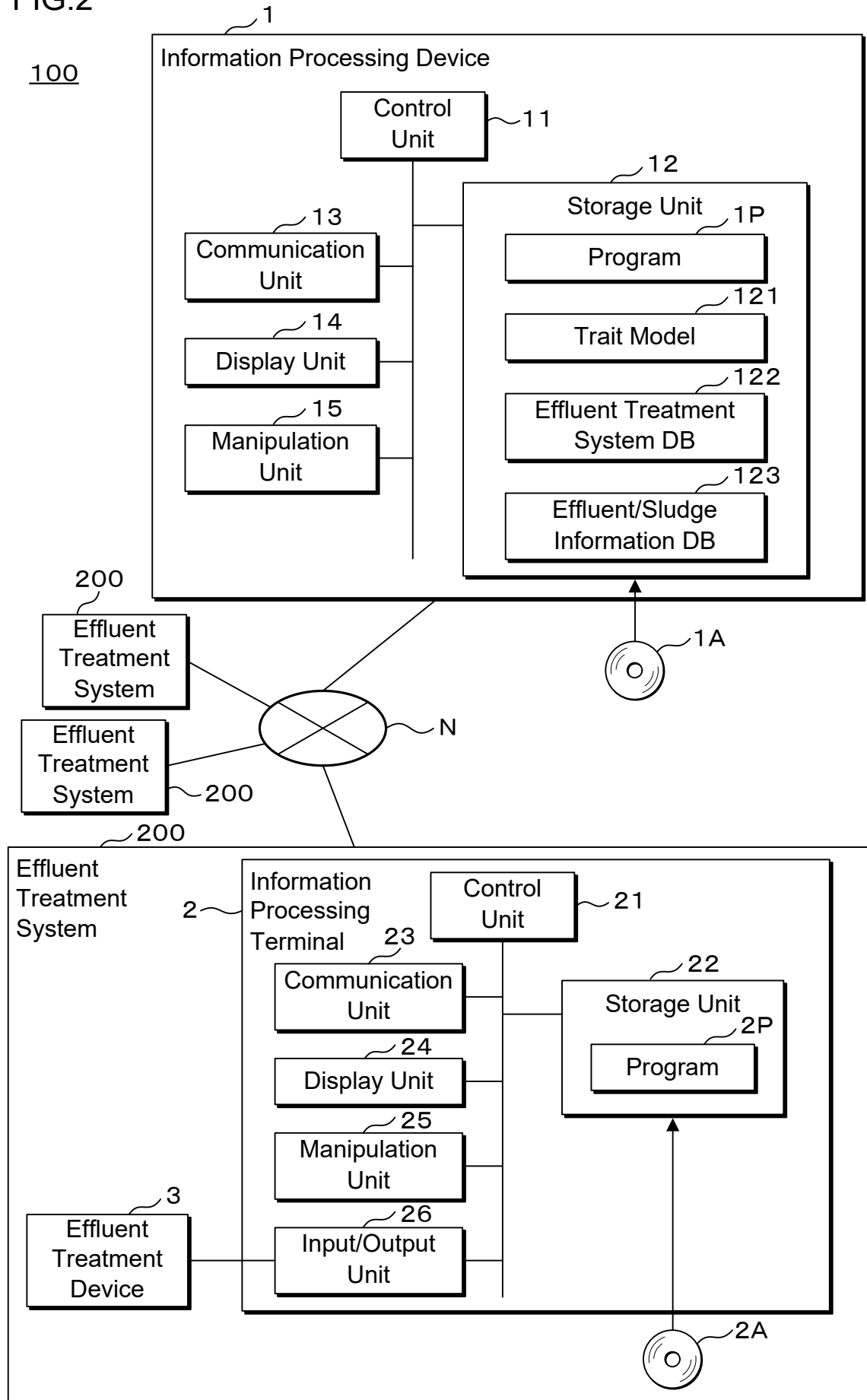


FIG.3

122

| Effluent treatment system ID | User ID | Effluent type  | Effluent information ID | Sludge information ID | Trait model information                                                      |
|------------------------------|---------|----------------|-------------------------|-----------------------|------------------------------------------------------------------------------|
| x1                           | y1      | Chemical plant | d1                      | s1                    | $\Delta MLSS \times V = a \Delta C - B \times MLSS \times V$<br>a: **, B: ** |
| x2                           | y2      | Food factory   | d2                      | s2                    | ...                                                                          |
| ...                          | ...     | ...            | ...                     | ...                   | ...                                                                          |

| Operating condition information                                                           | Management information                                                                    |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Bacteria type: sludge decomposition bacteria X1,<br>Added amount: 5~6,<br>TOC: 800~900... | Stock bacteria amount: **mL,<br>Next order date: Month○Day○,<br>Next order quantity: **mL |
| ...                                                                                       | ...                                                                                       |
| ...                                                                                       | ...                                                                                       |

FIG.4

123

| Effluent information ID | Effluent information |                     |              |              |             |             |             |                                   |                      |                                       |                                             |                           |
|-------------------------|----------------------|---------------------|--------------|--------------|-------------|-------------|-------------|-----------------------------------|----------------------|---------------------------------------|---------------------------------------------|---------------------------|
|                         | Collection date      | Flow rate<br>[m3/d] | BOD<br>[ppm] | TOC<br>[ppm] | TN<br>[ppm] | TP<br>[ppm] | SS<br>[ppm] | Liquid specific gravity<br>[kg/L] | SS density<br>[kg/L] | Odor substance concentration<br>[ppm] | Persistent substance concentration<br>[ppm] | Other components<br>[ppm] |
| d1                      | 2021/2/24            | 204                 | 960          | 282          | —           | —           | —           | —                                 | —                    | —                                     | —                                           | —                         |
| d2                      | 2021/5/10            | —                   | —            | —            | 24.7        | ***         | ***         | —                                 | —                    | —                                     | —                                           | ***                       |
| ...                     | ...                  | ...                 | ...          | ...          | ...         | ...         | ...         | ...                               | ...                  | ...                                   | ....                                        | ...                       |

| Sludge information    |                 |            |                          |                     |        |                  |                                  |                |                           |                                                |                             |
|-----------------------|-----------------|------------|--------------------------|---------------------|--------|------------------|----------------------------------|----------------|---------------------------|------------------------------------------------|-----------------------------|
| Sludge information ID | Collection date | MLSS [ppm] | Killed bacteria rate [%] | Bacterial flora [-] | SV [%] | SVI [mL/g -MLSS] | Filamentous bacteria content [-] | Flock size [-] | Protozoan type/number [-] | Organic compound /inorganic compound ratio [-] | Sugars/ protein content [-] |
| s1                    | 2021/2/24       | ***        | -                        | -                   | -      | -                | -                                | -              | -                         | -                                              | -                           |
| s2                    | 2021/5/10       | ***        | ***                      | ***                 | ***    | ***              | ***                              | ***            | ***                       | ***                                            | ***                         |
| ...                   | ...             | ...        | ...                      | ...                 | ...    | ...              | ...                              | ...            | ...                       | ...                                            | ...                         |

FIG.5

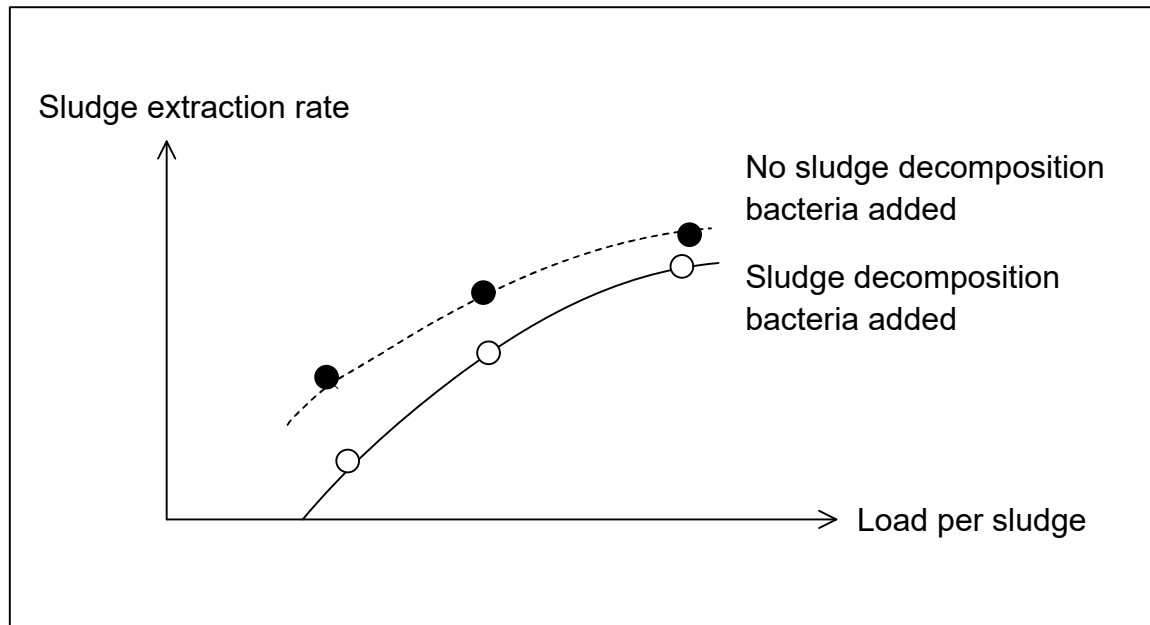


FIG.6

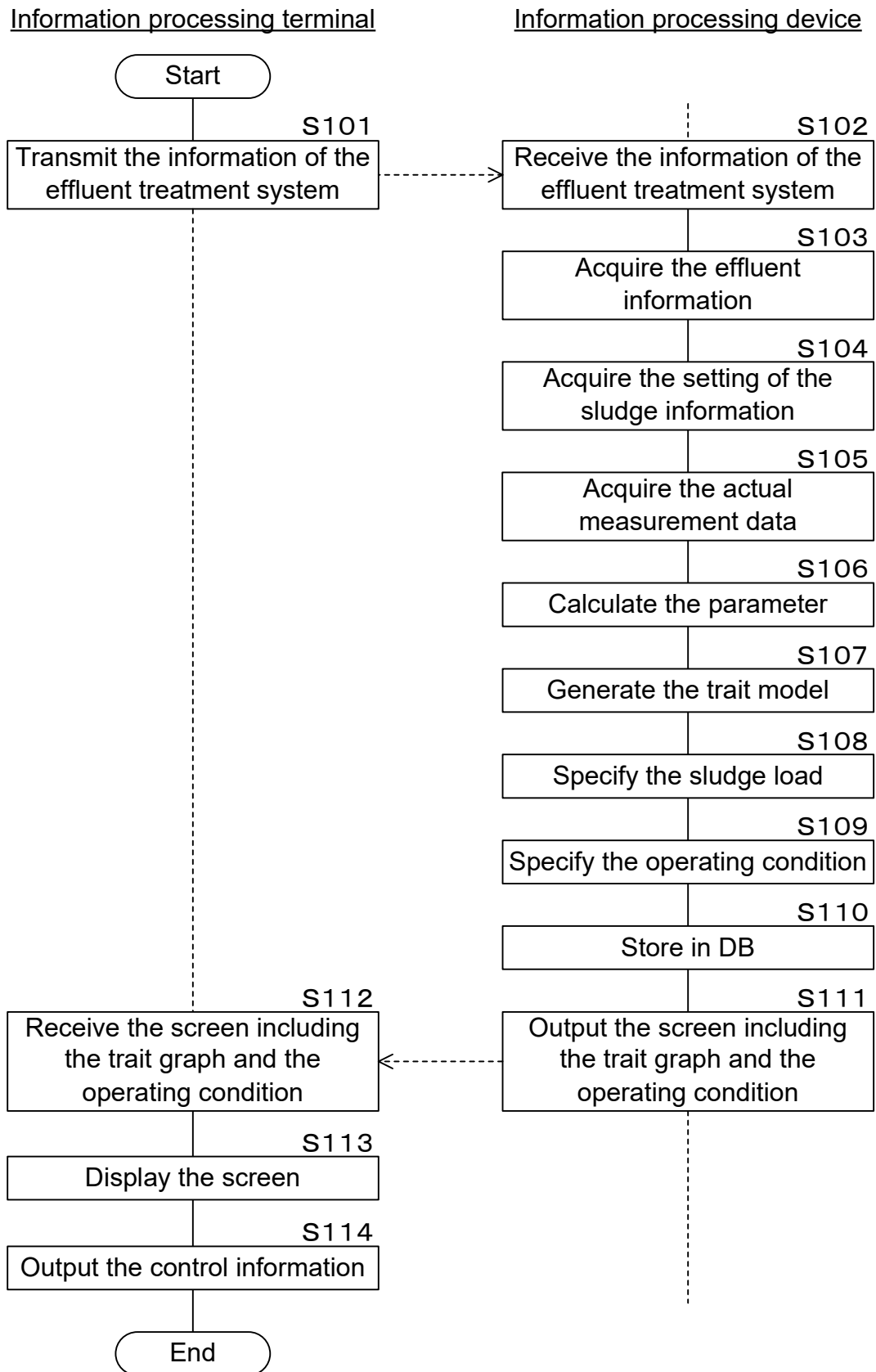


FIG.7

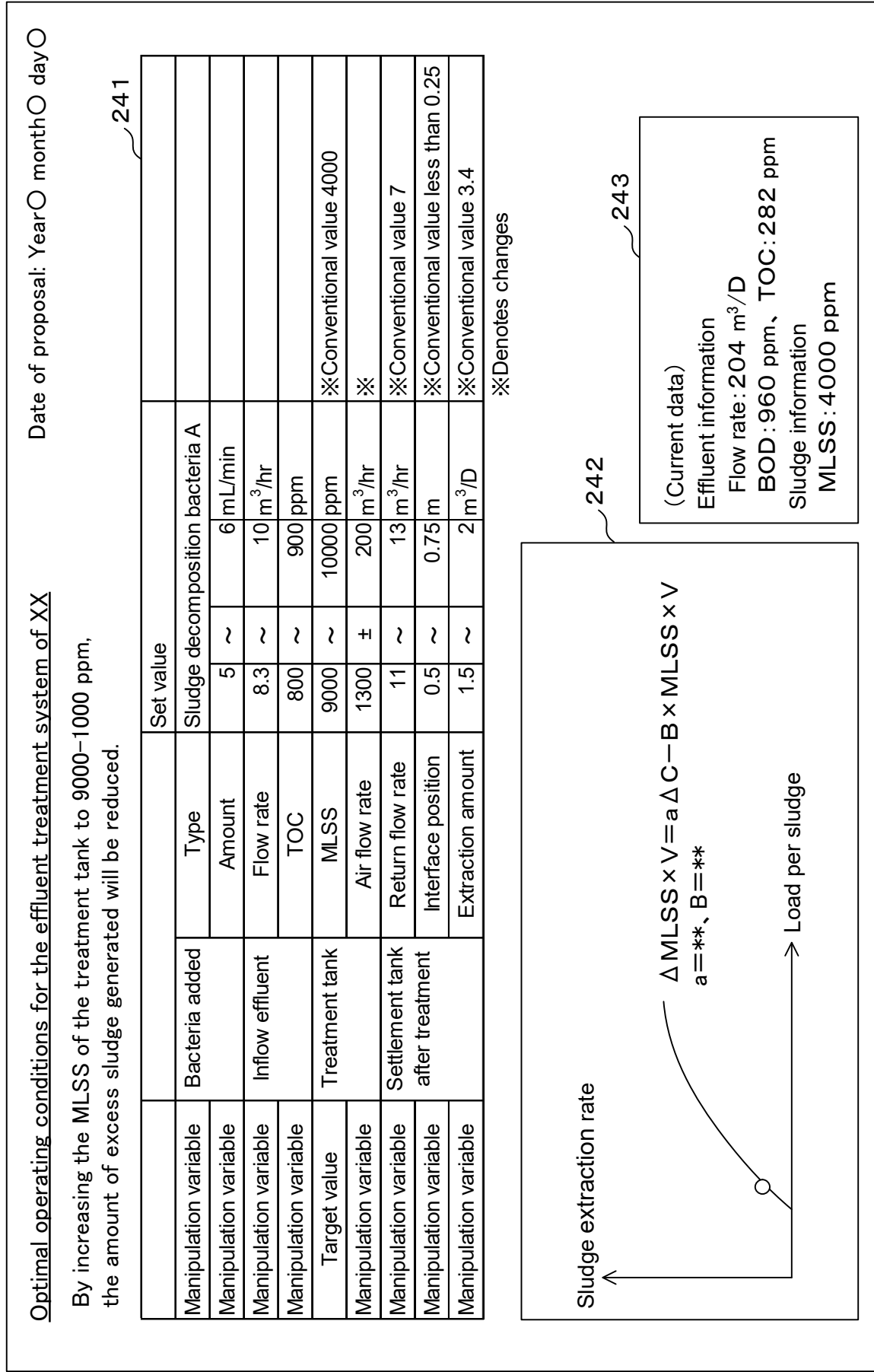


FIG.8

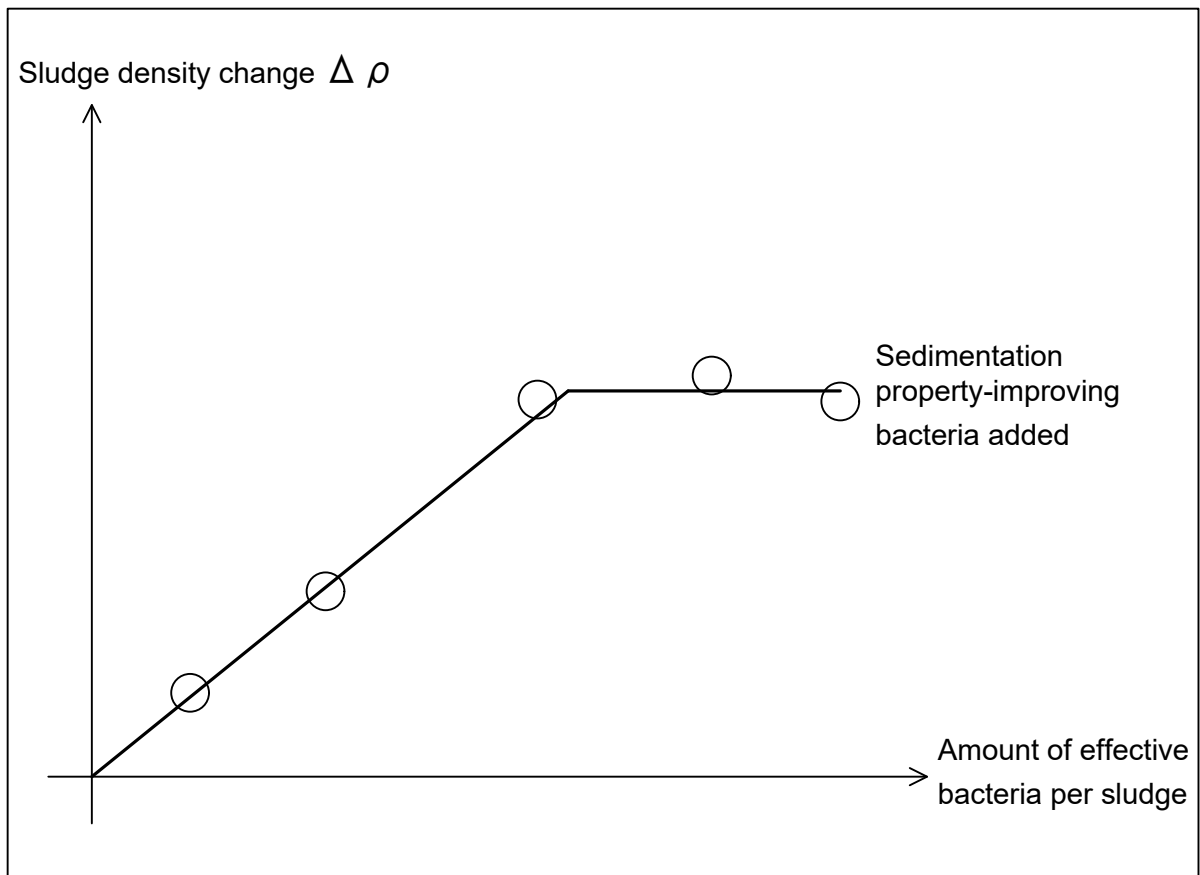


FIG.9

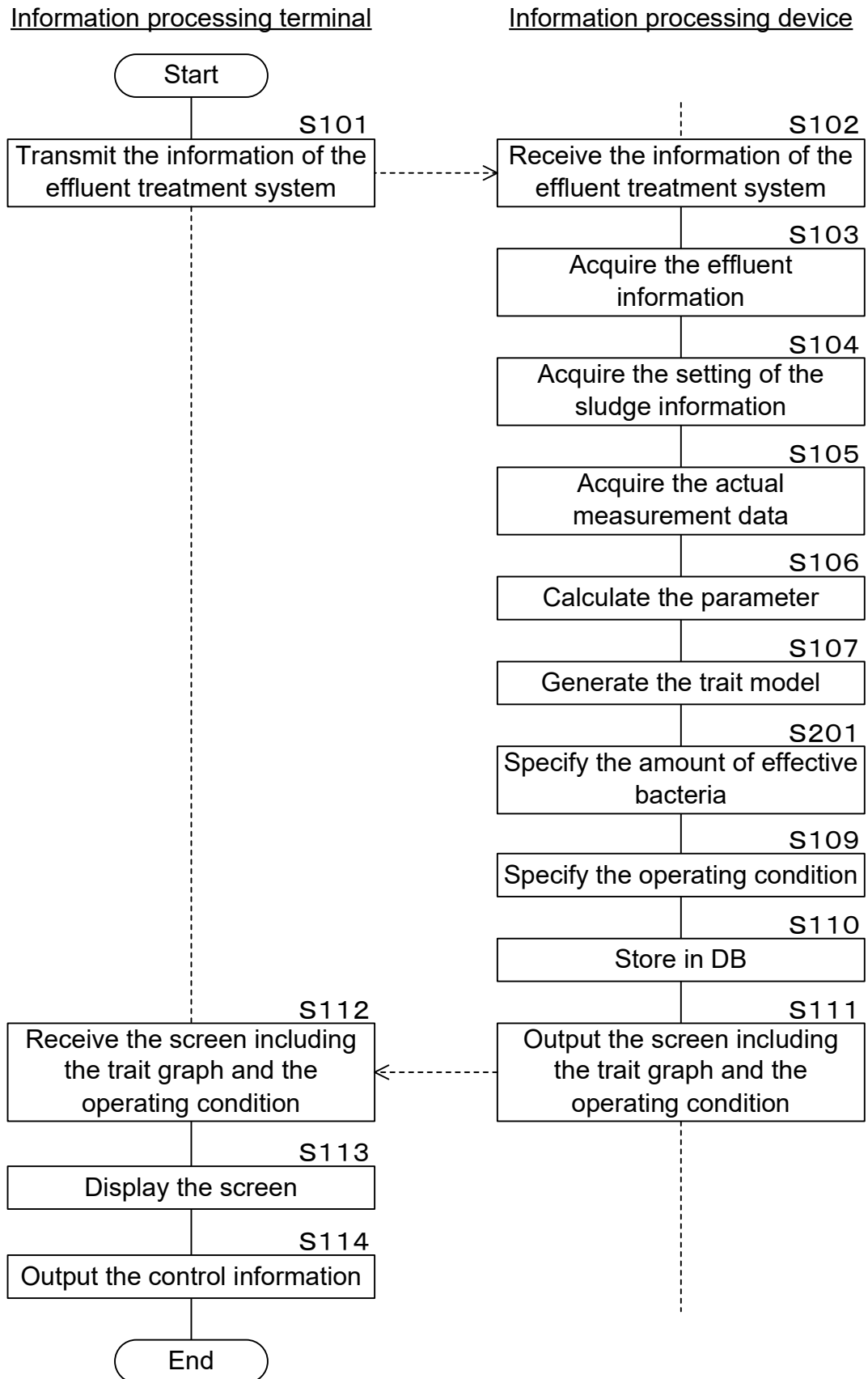


FIG.10

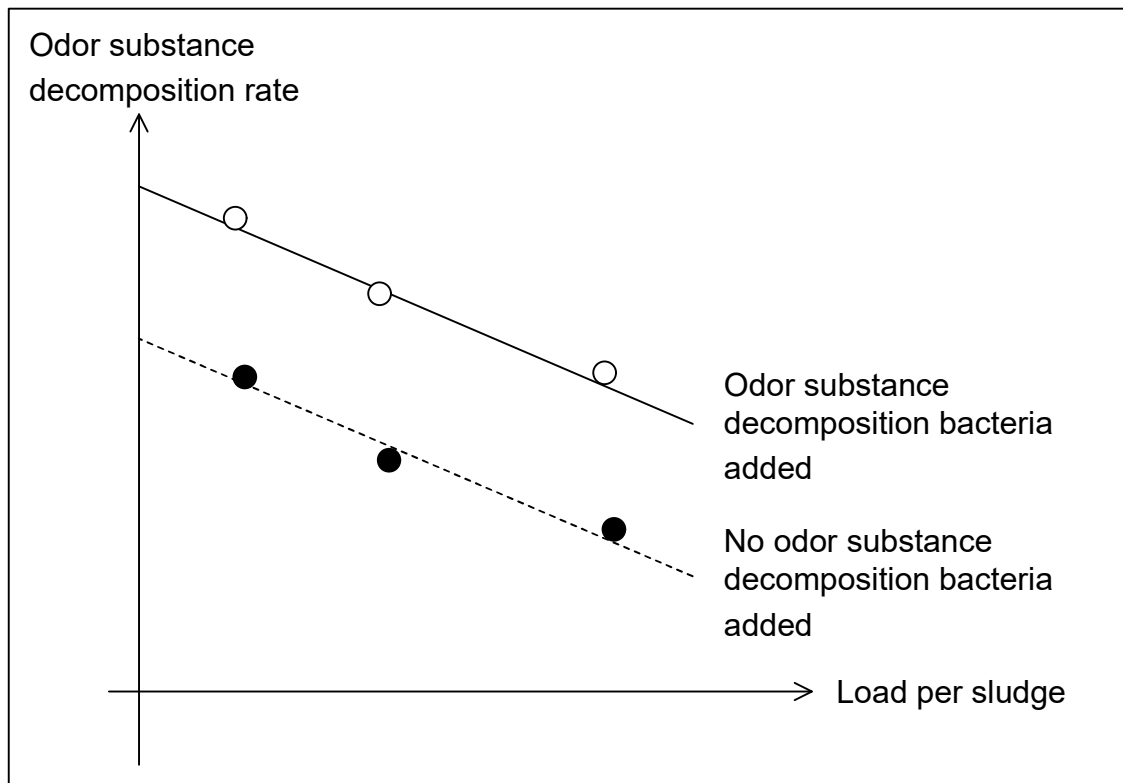


FIG.11

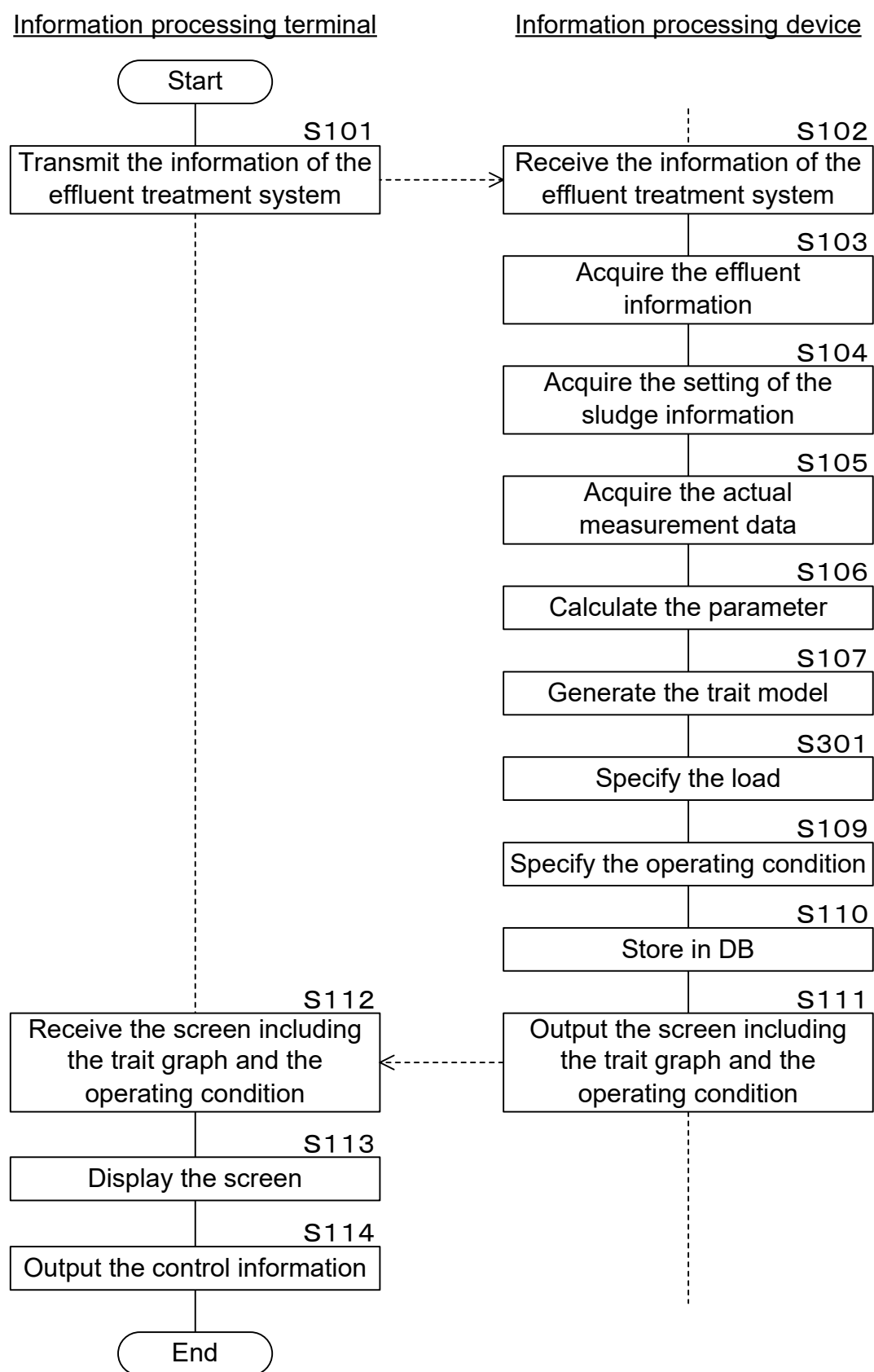


FIG.12

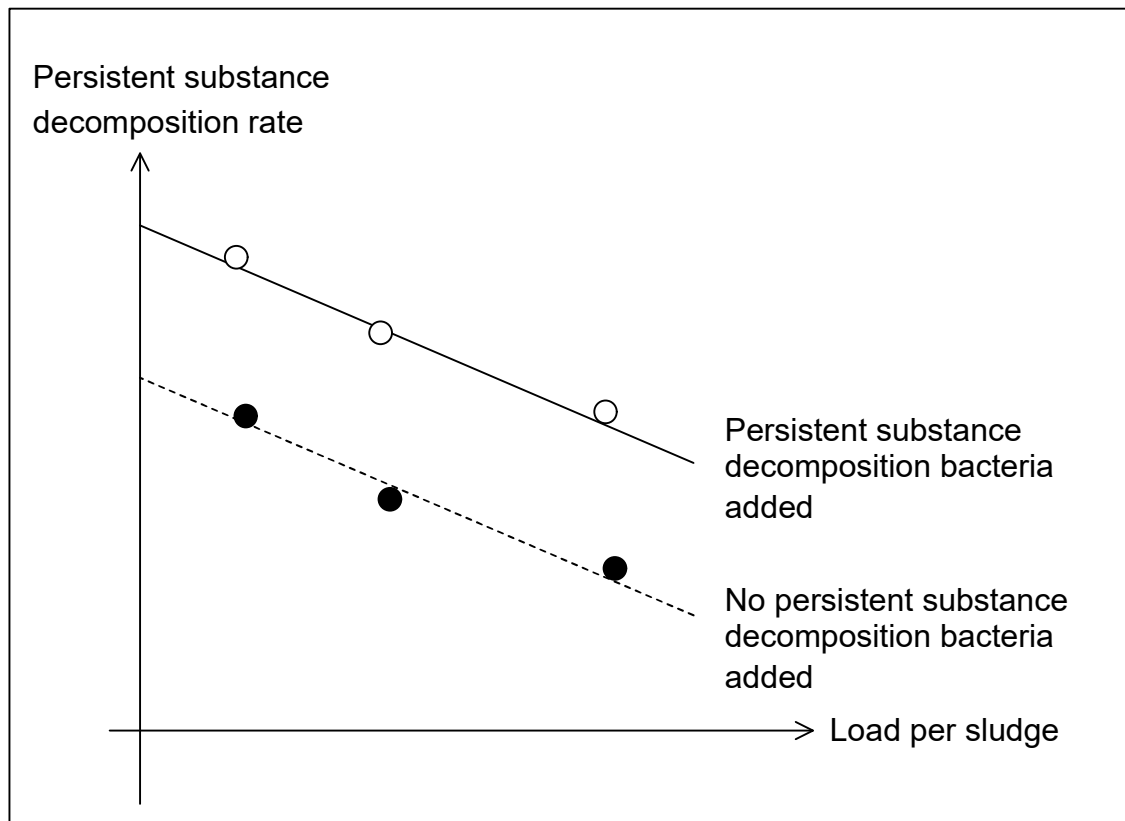


FIG.13

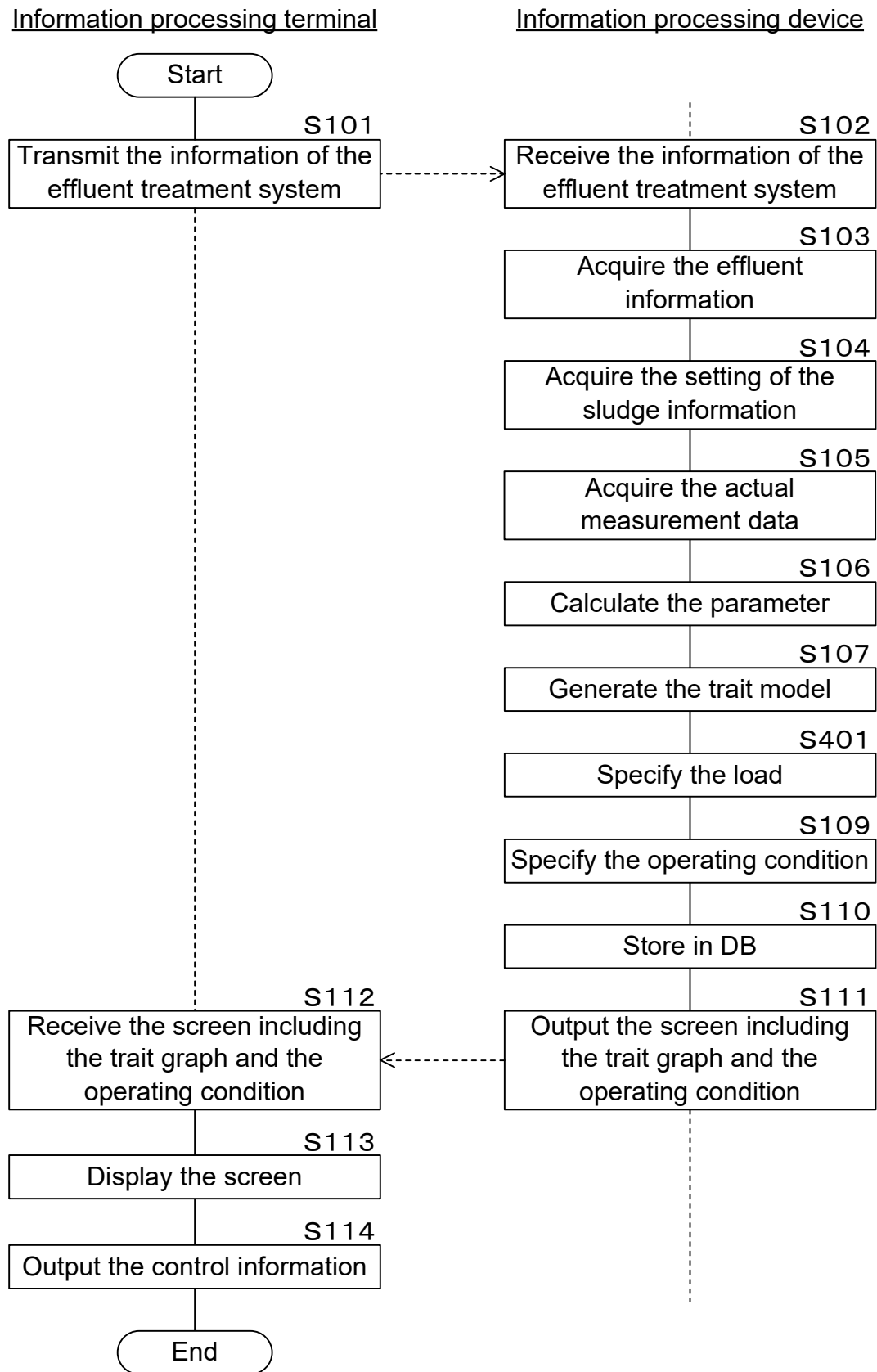


FIG.14

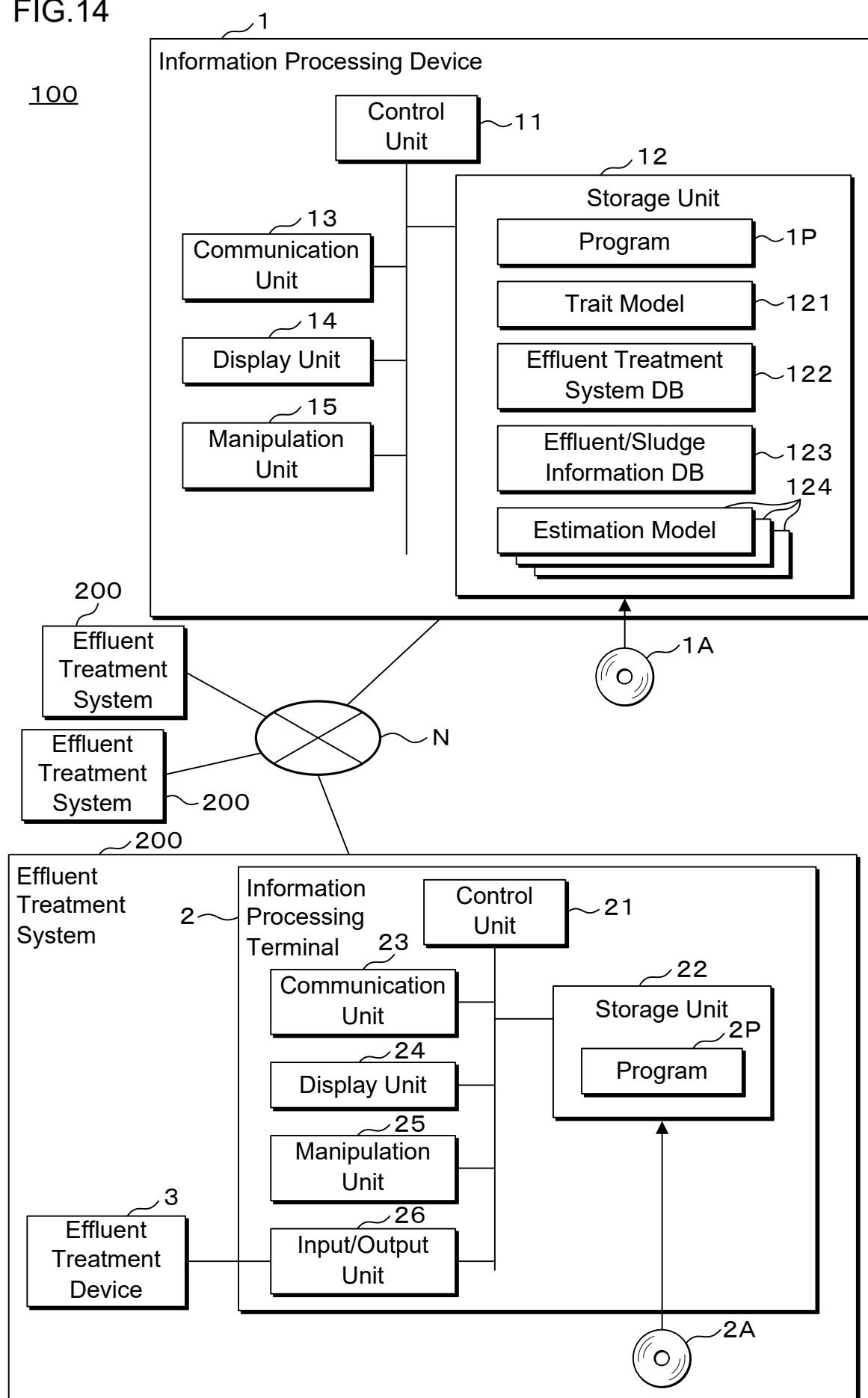


FIG.15

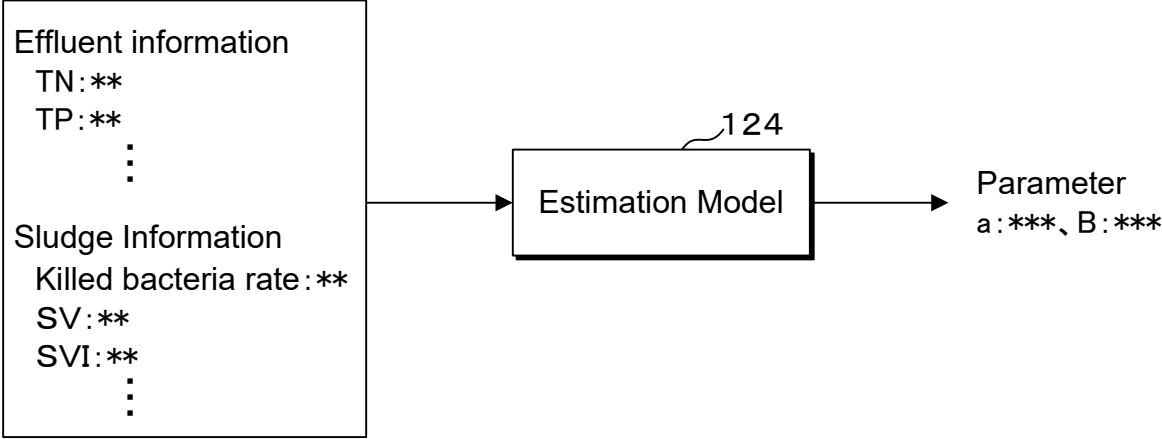


FIG.16

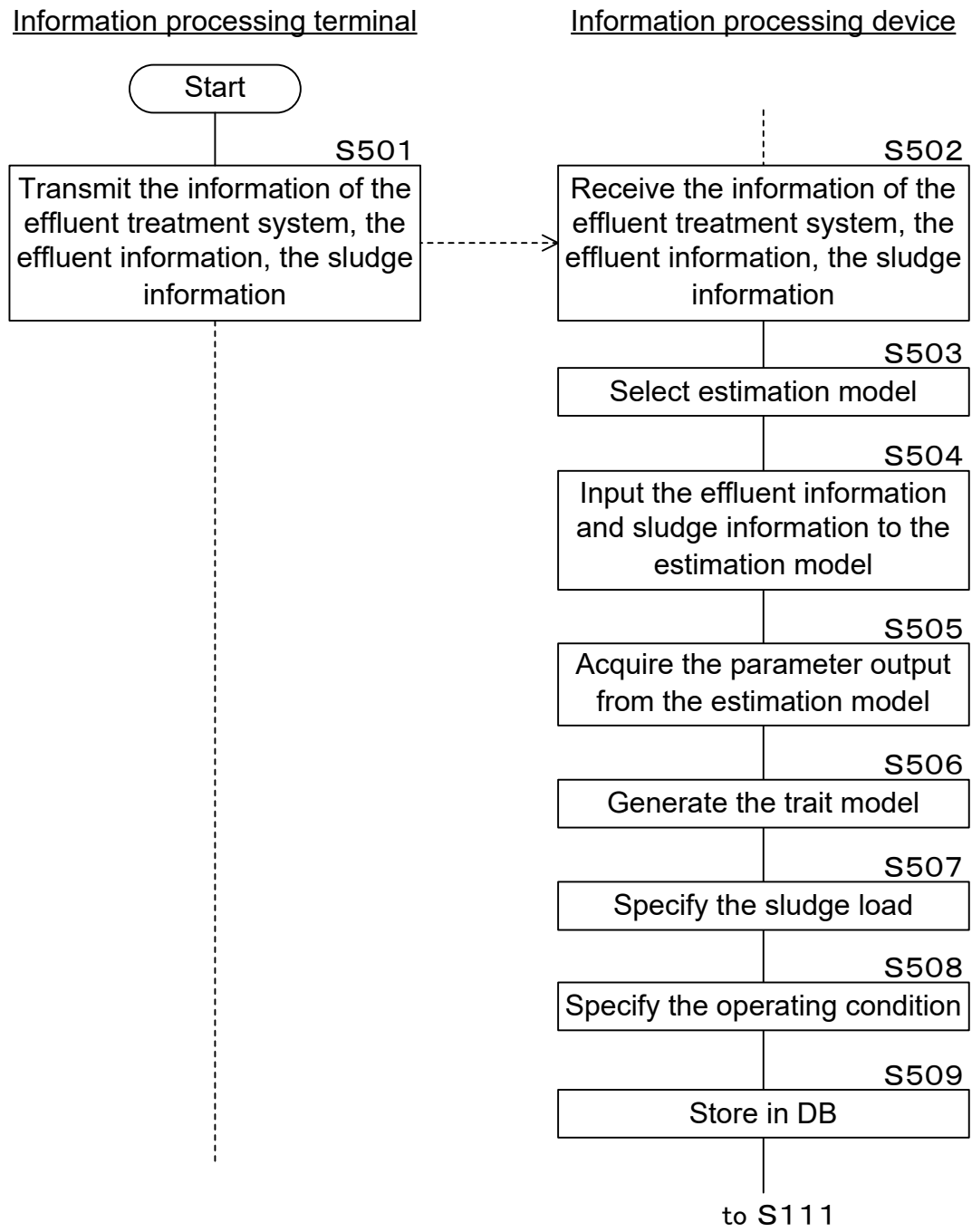


FIG.17

