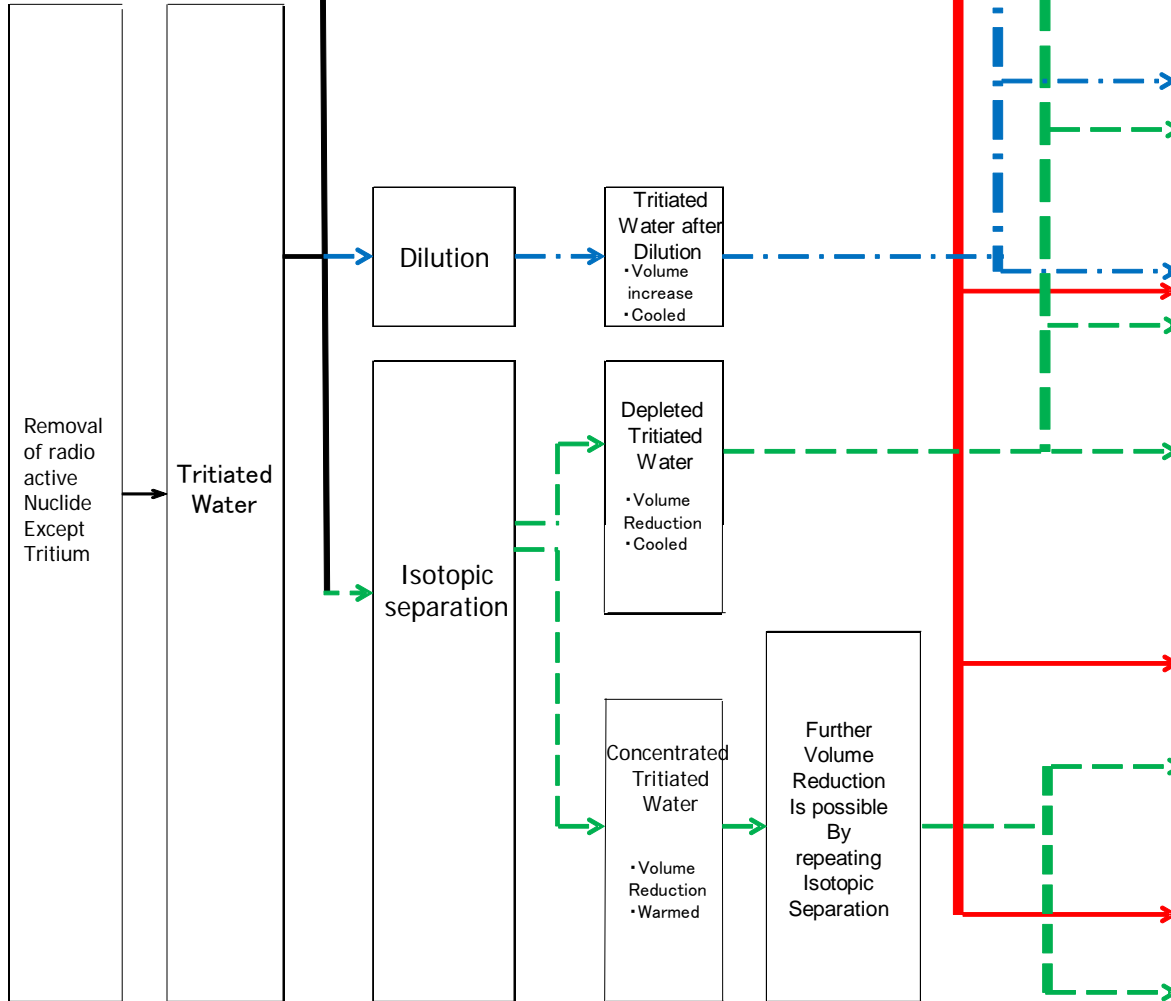


# Options and Challenges for the Final Form of Tritium Disposition (Draft)

<Options and Challenges>

<Pretreatment>



| Disposal method   | Major challenges, etc.   | Destination |
|---|--|-------------|
| Injection and disposal into the geological formation                  | <ul style="list-style-type: none"> <li>Decision on method of underground injection (selection of geological formation, injection speed, temperature, etc.)</li> <li>Evaluation of the dissipation behavior after underground injection</li> <li>Evaluation of impacts on human body, etc. after dissipation</li> <li>Development of the system to trace the behavior after injection</li> </ul>                            | Underground |
| Release to the sea  | <ul style="list-style-type: none"> <li>Decision on method to release to the sea (destination of release, amount of release, temperature, etc.)</li> <li>Evaluation of the dissipation behavior after release</li> <li>Evaluation of impacts on human body, etc. after dissipation</li> <li>Development of a system to trace the behavior after release</li> </ul>  | Sea         |
| Release to the Atmosphere in the form of steam                        | <ul style="list-style-type: none"> <li>Decision on the method to release to the atmosphere in the form of steam (speed of release, temperature, etc.)</li> <li>Evaluation of the dissipation behavior after release as steam</li> <li>Evaluation of impacts on human body, etc. after dissipation</li> <li>Development of a system to trace the behavior after release as steam</li> </ul>                                 | Atmosphere  |
| Release to the Atmosphere As hydrogen Gas after reducing to Hydrogen  | <ul style="list-style-type: none"> <li>Decision on the method to release into the atmosphere (speed of release, temperature, etc.)</li> <li>Evaluation of the dissipation behavior after release</li> <li>Evaluation of impacts on human body, etc. after release</li> <li>Development of the system to trace the behavior after release</li> <li>Dissipation of the system to trace the behavior after release</li> </ul> | Atmosphere  |
| Underground burial and disposal after solidification and gelification | <ul style="list-style-type: none"> <li>Decision on the location and the method of burial</li> <li>Evaluation of dissolution behavior from concrete, etc.</li> <li>Evaluation of impacts on human body, etc. after dissolution</li> <li>Development of the system to trace the behavior after dissolution</li> </ul>  | Underground |
| disposal of small amount of highly concentrated tritiated water       | <ul style="list-style-type: none"> <li>Selection of the method of disposal</li> <li>Assurance of locations for disposal</li> </ul>   | Underground |
| Storage of significant amount of tritiated water                      | <ul style="list-style-type: none"> <li>Establishment of an approach to store tritiated water safely for a long time</li> <li>Establishment of a permanent control approach</li> <li>Assurance of locations and tanks for storage</li> </ul>  | Facilities  |
| Storage of small amount of highly concentrated tritiated water        | <ul style="list-style-type: none"> <li>Selection of the storage/disposal method</li> <li>Establishment of a permanent control approach</li> <li>Assurance of locations for storage and disposal also tanks for storage</li> </ul>  |             |