[Form 2 (to be reported to Committee on Countermeasures for Contaminated Water Treatment and to be disclosed to public)

| Technology Information | |
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| Area | 2 (Select the number from “Areas of Technologies Requested”) |
| Title | Drainage Canal Passive Filtration System |
| Submitted by | The SimplyInfo.org Research Team |

1. Overview of Technologies (features, specification, functions, owners, etc.)

Two drainage canals at Fukushima Daiichi have been getting increased attention for their contribution to contamination being released to the sea. The canals appear to be collecting both surface water and some groundwater. Both sources have been known to contain varying levels of contamination including what is assumed to be highly contaminated water that leaked from storage tanks.

By installing a multi-nuclide passive filtration system on these drainage canals as they reach the sea, a significant amount of the contamination can be captured. Simple periodic monitoring of the incoming and outgoing water could be used to verify the continuing capture performance by the media beds.

A very simple system using large flat intake screens and mesh bags or a similar permeable containment of zeolite and charcoal media could be installed at a relatively low cost to filter the drainage water leaving the plant. This allows the drainage canals to continue to be used to handle surface water at the plant with some level of mitigation of the released contamination. If needed a sediment pre-filter consisting of a silt fence and filtration foam could be added to prevent clogging or coating of the filter media.

Some benefit may also be seen in lining the drainage canal with concrete. This will prevent surface runoff from contributing to over all soil contamination and would block higher levels present in the groundwater from joining the water in the drainage ditch.

Please see the attachment for specifications, details of the functions of the system and diagrams.

Owners: SimplyInfo.org is the “owner” of the intellectual property of the concept. All equipment suggested to complete the project are based on capability or adherence to technical standards. “Like for like” equipment could be exchanged to suit availability in Japan. Brands of equipment

suggested are to clarify the concept. We have no affiliations of any type with the brands or companies used as representative suggestions.

2. Notes (Please provide following information if possible.)

- Technology readiness level (including cases of application, not limited to nuclear industry, time line for application)

  The individual components are well known and commonly used items in various industrial settings were filtration or isotope capture is needed. The staged filter concept is also a long known method for cleaning water. Since all of the items are readily found in industrial supply sources, installation timelines should be mostly based on the construction of the filtration system on site.

- Challenges

  Water entry from surface and groundwater locations must be taken into consideration when sealing the drainage canal. If significant amounts of water can not enter the drainage canal they could instead follow the path of the canal along the outside creating erosion pathways and allowing water to escape the plant untreated. Details of the site drainage systems would be useful in developing a mitigation plan.

- Others (referential information on patent if any)

  There is currently no patent on the concept proposed here. Representative suggestions of brands or types of equipment may be subject to their own patents with the manufacturer.

3.

【Areas of Technologies Requested】

(1) Accumulation of contaminated water (Storage Tanks, etc.)

(2) Treatment of contaminated water (Tritium, etc.)

(3) Removal of radioactive materials from the seawater in the harbor

(4) Management of contaminated water inside the buildings

(5) Management measures to block groundwater from flowing into the site

(6) Understanding the groundwater flow