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# **Improvement of environmental management at King Sejong Station**





## Improvement of environmental management at King Sejong Station

King Sejong Station on King George Island in the Antarctic was established in 1988. Although the station has been well maintained by annual plan, the Korean government decided to implement a special renovation project to meet revised standards and to install energy saving facilities

First, an Initial Environmental Evaluation(IEE) was undertaken and the report published in December 2007, in accordance with Annex I to the Protocol on Environmental Protection to the Antarctic Treaty according to the requirements of the Korean Act of “Activities and Environmental Protection in Antarctica” which was became effective in 2004.

In Accordance with the IEE results, two oil bunds were built to prevent oil spill accidents. There are six oil tanks set in two areas next to the station, each with a volume of 150m<sup>3</sup>(total volume 900m<sup>3</sup>). The bunds were designed to avoid oil-spill contamination and to contain 700m<sup>3</sup> and 500m<sup>3</sup> of oil, so together they can contain the total volume of oil stored at the station.

To save energy and protect the Antarctic environment, a heat recovery system was introduced, in which waste heat from the generator is recycled and used to heat other buildings. This system can reduce electric consumption by 100,000 kW/year.

The sewage treatment system was also improved. Because the number of scientists visiting King Sejong station has increased through the years, the volume of sewage discharge has grown and the existing sewage treatment system has reached its capacity. To treat the increased volume of sewage more efficiently and in a more environmentally friendly manner, the existing system(capacity: 12 m<sup>3</sup>/day, IMO standards : BOD 50mg/L, SS 50mg/L) was replaced with that with a higher capacity system with improved effluent standards(capacity: 20m<sup>3</sup>/day, treatment standard: BOD 9.4mg/L, SS 9.4mg/L).

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