Debate
Exercise

Age group
16-18

Debating

Attending the Antarctic Treaty Consultative Meeting

The Antarctic Treaty is one of the most successful international collaborations to date. It bestows Antarctica with high level environmental regulations, requiring all activities on the continent to be reported.

Figure 1 Claims frozen by the Antarctic Treaty.

1 Claims by Chile
2 Claims by the United Kingdom and Chile
3 Claims by the United Kingdom, Argentina and Chile
4 Claims by the United Kingdom and Argentina
5 Claims by the United Kingdom
6 Claims by Norway
7 Claims by Australia
8 Claims by France
9 Claims by New Zealand
10 Area where no claims have been made

How the Antarctic Treaty System came to be

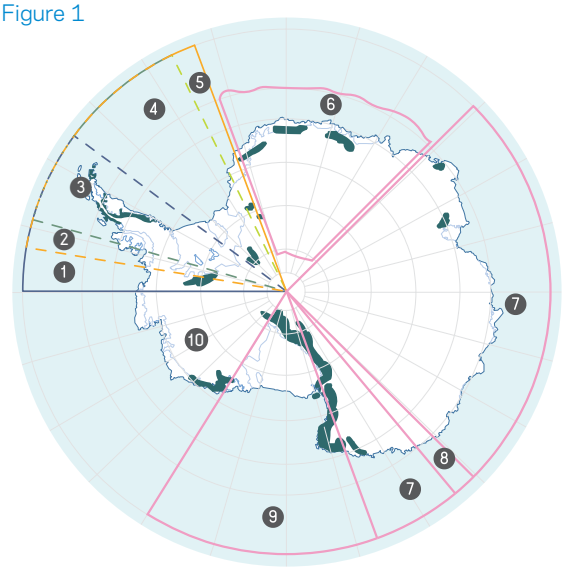
The early Antarctic explorers set out to conquer a dangerous and unknown continent, claiming territories in the name of their king, queen or country. But many of these claims overlapped (see Figure 1).

In the wake of the successful international cooperation of International Geophysical Year of 1957-58, scientists from 12 different nations came together to form the Antarctic Treaty. Signed on December 1, 1959 the Treaty froze all of the countries land-claims and designated the continent for peaceful purposes and freedom of scientific investigation.

The 12 original signatory states were Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, Russia (then the USSR), the United Kingdom, and the United States.

Since its inception, other nations have joined and the Treaty has now been signed by a total of 50 countries.

Figure 1



The Environmental Protocol of the Antarctic Treaty came into effect in 1998. Article 2 of the protocol states that the signatory states, "designate Antarctica as a natural reserve, devoted to peace and science."
The protocol is legally binding, and can only be modified if all of the parties agree. In 2048 (the 50 year anniversary), the Protocol will be up for review and changes can be made.

No more sled dogs

Since 1994 sled dogs have been banned from Antarctica to avoid introducing non-native species to the continent.

Did you know?

In an effort to display their nation's sovereignty, Argentina and Chile send pregnant women to give birth in Antarctica. The first baby born in Antarctica was Emile Marco Palma, in 1979 at Esperanza Station.

Debate
Exercise

Age group
16-18

Debating

The Environmental Protocol (also known as the Madrid Protocol) of the Antarctic Treaty requires each signatory state to comply with a number of principles. It also requires parties to conduct inspections of the activities of other nations on the continent. These inspection reports are to be presented at the Antarctic Treaty Consultative Meeting, with the purpose of opening up discussion and improving logistics on the continent.

Imagine you are members of the German and South African joint inspection team. After touring four Antarctic stations during the previous season, January 2013, you have compiled a report and are about to present your findings at the Antarctic Treaty Consultative Meeting in Brussels, Belgium during May 2013.

1 Divide the class into four groups, with each group reporting on a different station.
2 All students will read excerpts from the different articles of the Environmental Protocol.
3 Each group is assigned a station and given excerpts from the inspection report of their station. Together the group will read and discuss points about their station and how well it complies with the principles of the Environmental Protocol. They will compile notes, and prepare a short speech.
4 Each group will present their findings to the whole class.
5 Discussion and debate is encouraged. After each group has presented, the students will discuss which bases complied the best, and which bases require improvements, also pointing out the similarities and the differences between the bases and their operations.

For further resources about each base (optional), visit:

Princess Elisabeth Antarctica: www.antarcticstation.org
Troll Station (in Norwegian): www.npolar.no/no/om-oss/norsk-polarinstitutt-i-sor/troll.html
Maitri Station: www.ncaor.gov.in
Halley VI Station: www.antarctica.ac.uk/living_and_working/research_stations/halley/halleyvi/

The following is a selection of articles from the Environmental Protocol of the Antarctic Treaty.

ARTICLE 3
ENVIRONMENTAL PRINCIPLES

1. The protection of the Antarctic environment and dependent and associated ecosystems and the intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of scientific research, in particular research essential to understanding the global environment, shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area.

ARTICLE 6
CO-OPERATION

1. The Parties shall co-operate in the planning and conduct of activities in the Antarctic Treaty area. To this end, each Party shall endeavour to:

   (a) promote co-operative programmes of scientific, technical and educational value, concerning the protection of the Antarctic environment and dependent and associated ecosystems;
   (b) provide appropriate assistance to other Parties in the preparation of environmental impact assessments;

2. Each Party undertakes, to the extent possible, to share information that may be helpful to other Parties in planning and conducting their activities in the Antarctic Treaty area, with a view to the protection of the Antarctic environment and dependent and associated ecosystems.
3. The Parties shall co-operate with those Parties which may exercise jurisdiction in areas adjacent to the Antarctic Treaty area with a view to ensuring that activities in the Antarctic Treaty area do not have adverse environmental impacts on those areas.

ARTICLE 14
INSPECTION

1. In order to promote the protection of the Antarctic environment and dependent and associated ecosystems, and to ensure compliance with this Protocol, the Antarctic Treaty Consultative Parties shall arrange, individually or collectively, for inspections by observers to be made in accordance with Article VII of the Antarctic Treaty.
2. Observers are:

   a) observers designated by any Antarctic Treaty Consultative Party who shall be nationals of that Party; and **(b)** any observers designated at Antarctic Treaty Consultative Meetings to carry out inspections under procedures to be established by an Antarctic Treaty Consultative Meeting.

3. Parties shall co-operate fully with observers undertaking inspections, and shall ensure that during inspections, observers are given access to all parts of stations, installations, equipment, ships and aircraft open to inspection under Article VII (3) of the Antarctic Treaty, as well as to all records maintained thereon which are called for pursuant to this Protocol.
4. Reports of inspections shall be sent to the Parties whose stations, installations, equipment, ships or aircraft are covered by the reports. After those Parties have been given the opportunity to comment, the reports and any comments thereon shall be circulated to all the Parties and to the Committee, considered at the next Antarctic Treaty Consultative Meeting, and thereafter made publicly available.

Princess Elisabeth Station (Belgium)

(1) Overview

The Princess Elisabeth Antarctica research station (PEA) is a summer only facility. It is occupied from November until February each Antarctic summer season. The main purpose is to be used as a base for extended field activities in the region extended up to the inland ice plateau.
...
The station is owned by the Belgian state and operated by the Belgian Polar Secretariat.
...
The inspection team arrived at PEA on 18 January 2013, 17:00 UTC. The inspection was performed on 19 January 2013, 09:00 until 16:00 UTC.
...
Various documentation, according to selected parts of the checklist, and other material were handed over to the inspection team. Interviews were conducted with the station manager and selected members of staff during the visit.

Station manager Alain Hubert emphasised the fact that PEA is there to support scientists in the field, going back to the original aims of the Antarctic Treaty. Thus, the PEA is widely relied upon by other Antarctic Treaty Parties for scientific expeditions and field work. Extensive outside science facilities ensure long-term monitoring in east Antarctica. The high performance broadband satellite link (sponsored by SES ASTRA) at PEA allows remote control of the station during unmanned winter times, as well as the transfer of valuable scientific data year round.
...

(2.1) Station facilities and description

...
The station was commissioned in February 2009. The special design concept of using alternative energy sources requires a sophisticated energy management system. An important component of this system is the remote control of the station during winter – an important segment of the design in order to keep the main building at the necessary temperature level and to make the base operational for the subsequent summer season.

It consists of several buildings and facilities. There is a main building with an attached wooden construction on the lower entrance side. On the roof of the wooden construction a battery of solar panels is mounted. Likewise solar panels are fixed at the outside walls of the main building.
...

(2.2) Station operations

...

Fuel storage and usage

Polar diesel is used for the diesel generators which function as a back-up to the station energy supply. Petrol unleaded 95 octane is used for skidoos and portable generators.
...
The inspection team found that the station personnel were well-aware of the risks associated with fuelling operations. For this reason, measures against fuel and oil spill such as the use of secondary containment (e.g.drip tray) and absorbent material were taken. No major fuel or oil spill incidents have occurred so far.

Power generation and management

The inspection team received a conducted tour of the power generation and management system. The primary energy supply is wind and solar energy. The permanent back-up consists of two diesel generators of 100 kW each.

The core of the energy supply is a battery pack consisting of 192 batteries. In case of low wind or solar energy, the backup diesel generators will automatically start to keep the batteries charged. It requires 100 to 120 hours a month to charge the batteries which last 6 to 8 hours at a time.

On the day of inspection, both the solar panels and the wind generators were not in operation due to maintenance and recabling. The 9 wind generators provide 6 kW each. The collection of solar panels generates 55 kW. The average daily consumption of the station is 600 kWh provided in combination of the three power sources i.e. wind, solar and diesel.
...
Although designed as an emission free station, diesel generation is required to supplement the alternative energy supply. The backup generators therefore are operational almost throughout the year. From the interview information on the energy production from April to December 2012, only during the months of September till November no diesel energy was needed.

The energy supply of the station is managed by a smart grid system, which is based on a dynamic prioritization principle. This implies channelling a variable supply of energy on a priority basis, e.g. scientific demand will be given a higher priority than for example general activities.

Water systems (supply, storage, treatment)

The main water supply is melting of snow, which does not require electricity. A solar thermal system on the roof of the main building generates sufficient energy to warm up the collection tank into which snow is thrown to melt. On average 800 l per day of water are produced.

The water treatment plant is a nanomembrane filtration biological system. Black and grey water enters an anoxic zone followed by an aerobic zone where oxidation and pH is controlled. The next step is a filtration system/active carbon/UV system and chlorine is added. The sludge filter collects 160 kg of sludge per season. The treated water is reused once for everything except drinking and cooking. Water conservation is managed through a very stringent water usage system e.g. showers are controlled in 30 second squirts. The water supply and treatment system is shut down at the end of summer activities and set up again at the beginning of next summer season.
...

(6) Training and Awareness

...

Awareness

The personnel are briefed weekly by the team leader or station manager on activities to be undertaken. The Madrid Protocol, as well as the fuel spill action card, environmental code of conduct, etc., are placed on the notice board and in strategic areas for personnel awareness.

...

(8) Tourism

During the International Polar Year (2008/2009) the station received a number of royal and VIP-visits, as well as from several art photographers and documentary television teams.
Recognizing that the UK-Government has issued a permit for the adventure expedition "The Coldest Journey", the station decided to provide logistic support to the expedition on condition that the permit's environmental and search and rescue requirements are fully implemented.
No requests for tourist visits were received.

(9) Summary and Findings

Latest technologies are applied to run the main building with a combination of wind, solar and diesel energy, significantly reducing emissions (although not to a zero level) and the station is in many aspects exemplary.
The inspection team recommends sharing technical information and operational experience in order to assist other nations to develop advanced replacements if intended. Especially the energy management (smart grid) and the measures to reduce water consumption are noteworthy. Other stations are encouraged to consider adopting these technologies.

...

The establishment of a more formal classification and reporting system for accidents and incidents should be considered.

The comprehensive waste management plan and the oil spill prevention and response strategy that exist for the station are commendable, especially the exemplary waste water treatment and recycling process.

Belgium should consider implementing measures to minimize the danger of introducing non-native species to Antarctica and should also ensure that the preseason and annual report information on the Belgian activities in Antarctica are available annually on the EIES.
The inspection team noted that excellent science is undertaken by internationally staffed expeditions that do field work around PEA.

Troll Station (Norway)

picture © Stein Tronstad, Norsk Polarinstitutt

(1) Overview

Troll is a year round station which was opened in February 2005 after extensive construction work. The station is built on rock. Troll was initially commissioned as a summer station in 1990.

...

A number of research areas have been established in the vicinity of the station. Scientific activities comprise field parties and work at the Tor field station.

The station is owned and operated by the Norwegian Polar Institute (NPI). The national research programmes are funded by the Research Council of Norway and the NPI.

...

The inspection was performed on 14 January 2013 from 10:00 hrs until 16:00 UTC.

Comprehensive documentation according to the checklist and other material was handed over to the inspection team, and a number of interviews were performed with the responsible members of staff during the visit.

At the time of inspection, 45 persons were present at Troll station.

(2.1) Station facilities and description

...

On the platform of the main building, a separate block with grey and black water treatment is installed. According to the station master, treated water is not used, because sufficient water is available year round.

The workshop and garage (heated) for maintenance of vehicles, the fuel pump station, snow smelter and power plants (main and emergency) are housed in separate units away from the main building.

The power plant unit also accommodates a UPS battery backup for 1 hour, as well as a fire fighting control centre.

The power plant unit of the former summer station is now used as a further emergency generator and the liquid hydrogen generator for the clean air laboratory is accommodated here as well.

(2.2) Station operations

Fuel storage and usage

...

Arctic diesel is stored in 11 m^3 glass fibre tanks mounted inside 20 ft steel containers, as well as 24 m^3 double-walled fuel tanks.

...

Arctic diesel: manually operated fuel transfer pump, comprising an insulated steel pipeline (partly above the ground) from the fuel pump to the storage tank inside the power plant. Jet A-1 and petrol: manually operated.

As an easy, quick, safe and environmentally-friendly method of emptying fuel lines, a fixed fuel line with closing valves is used, comprising a suction hose connected with a dry-

picture © Peter Leopold, Norsk Polarinstitutt

break coupling for connecting/disconnecting. This system dissipates trapped fluid pressure into the hose coupler without any spillage.

...

Double-walled transport and storage fuel containers are mounted inside 20 ft steel containers. All fuel connections are inside the container. Fuel drums are stored on fuel store mats to prevent any spill in case of damage to the drums. Fuel absorbing materials are used to protect against spills and leaks during maintenance.

Power generation and management

Basic power supply is by diesel generators (electric energy and thermal energy), with a separate emergency plant. There are no alternative energy sources, however Norway is looking at introducing alternative energy production at Troll (solar energy). Studies for the possible use of wind energy have been completed, however there is not sufficient wind potential.

...

Water systems (supply, storage, treatment)

An ice/snow melting system, using exhaust heat from generators, is used for water supply. Water is treated using filters and ultraviolet (UV) purification, then stored in a 3600 l tank. Snow for this process is readily available from the glacier nearby the station. Regular analysis of water samples indicates that good quality water is produced. The consumption of water is 80-100 l per person per day.

...

(6) Training and Awareness

...

Awareness

All personnel arriving at the station are given the mandatory "Troll in brief", which provides information regarding administration routines, waste handling/sorting procedures, pollution awareness, safety precautions, danger areas around the station (crevasse areas, etc.), rules for field trips and ongoing activities to be undertaken. A list of training courses undertaken by each personnel member is placed on the notice board.

...

(8) Tourism

The Norwegian government's policy on tourism is restrictive and explicit – requests by tourism companies and individuals to visit the station or to make use of the landing strip for tourist flights are denied.

A private Swiss company performed a test flight with a Boeing 737BJ from Cape Town to Troll and back on 28 November 2012 without refuelling at Troll. The flight demonstrated both the potential of a reduced environmental footprint and the use of such flights for larger-scale tourism. Norway attaches importance to the fact that the objective of this flight was in no way to explore the potential for large scale tourism.

picture © Stein Tronstad, Norsk Polarinstitutt

(9) Summary and Findings

The well run station's efforts to keep the Troll runway open, not only as the regional main hub during the summer season, but also as an emergency medevac exit point during winter, is commendable. The inspection team observed that all technical infrastructure is in good working order and well maintained. All documentation, guidelines and management plans regarding fire-fighting, oil spills, medical and other emergency are in place.

The inspection team observed that vehicles with no loads are put on empty sledges and towed to the off-loading site to reduce fuel consumption for surface transport. International cooperation DROMLAN* and ship supply was considered important by the inspection team for efficient use of infrastructure for scientific activities.

The advanced waste treatment systems, largely reducing the volumes of food and sewage waste, as well as the treatment of liquid waste, are noteworthy. Staff briefing and documentation on pertinent issues, e.g. waste management, oil spill response, awareness of fauna and flora, introduction of non-native species, etc., could be more comprehensive.

...

*DROMLAN = Dronning Maud Land Air Network

Maitri Station (India)

picture © Dr Mahesh B.S., National Centre for Antarctic and Ocean Research (NCAOR)

(1) Overview

The inspection team was confronted with two inherent difficulties. First, it was received by the station commander and staff who had just started their seasonal/yearly term and therefore had only limited experience with running the station. Second, the organization of the internal reporting and information system was such that the team present at the station had no access to the concluding reports of previous teams. Given these limitations, the station commander and staff made every effort to answer questions.

Maitri station is a year round station opened in 1989 in the Schirmacher Oasis in Dronning Maud Land, Antarctica. The station is located on the southern shore of the Lake Zub (name according to the map issued by the Russian Antarctic Expedition).

Previously, India operated the station Dakshin Gangotri in this region. The former Dakshin Gangotri Station was constructed on the ice shelf and was operated from 1983 until 1989 and abandoned after being buried in ice. The remains of the station are currently about 20 meters below the surface of the ice shelf.
...
The National Centre for Antarctic and Ocean Research (NCAOR) manages the Indian Antarctic programme.
...
The inspection was performed on 20 January 2013 from 11:00 till 16:00 hrs UTC.

Personnel at the station on the day of inspection: 30 persons
Winter staff: 25 persons
Additional personnel during summer season: 30 persons

Limited documentation, answers to the checklist, maps and station layouts were available on the day of inspection.

(2.1) Station facilities and description

...
The station consists of an 850 m^2 main building that includes the communication room, sleeping quarters, kitchen, mess, lounge, bathrooms, boiler room, hospital, laundry and other living facilities. Total capacity for accommodation is 65 beds in the main building. Additionally the station has summer accommodation facilities (10 container units, sleeping 3 persons each).

There are several containerized modules housing science and technical installations such as diesel generators, incinerators, water treatment plants, etc. A hangersized construction accommodates workshops and facilities for vehicle maintenance.

The new station commander and his staff could not inform the inspection team on the age of the different buildings, which has been constructed after the commissioning of the main building in 1989.

There are areas for parking vehicles and trailers, tank storage and the deposit of metal waste and decommissioned equipment.
...

picture © Dr Mahesh B.S., National Centre for Antarctic and Ocean Research (NCAOR)

(2.2) Station operations

...

Fuel storage and usage

...

There are 9 single-walled tanks (24 000 l) not in use, but also not discarded yet. Also, a great number of empty fuel drums are deposited in the station area. According to the interview with the station commander, these drums will be removed in phases. The future policy is to reduce the usage of drums and transport fuel in bulk and store it in double-walled tanks in the fuel farm at the station.

Power generation and management

All energy requirements are provided by diesel generators. The diesel engines are air cooled. The thermal energy (exhaust heat and radiator) is not utilized, only the electrical energy is used. Electrically heated boilers provide hot water and heat to the main building of the base.

...

Water systems (supply, storage, treatment)

The station is using water pumped from the nearby lake. The pump station is mounted on a platform. The catwalk to this pump station was of concern to the inspection team with regard to safety. The water is pumped through a heated pipeline into the boiler room in the main building. The station is equipped with two water tanks with a capacity of 5 000 l each.

According to the interview, water usage is estimated at 40 l per person per day. Water is not used for flushing the toilets (incineration).

Grey water is treated via both the old and the newly installed Rotating Biological Contractor (RBC) system.

...

The system involves filtration and oxidation. The treatment system is accommodated in container modules next to the main building. The treated water is discharged into the adjacent collection pond. The pond was supposed to be sealed to prevent leakage into the ground and into the lake, as described in ATCM 35 BP 22 by India, however, the inspection team could not verify these measures.

Incinerator toilets in the main building are used for treatment of sewage. Food waste is incinerated in a separate module outside the main building. This incinerator needs urgent upgrading or replacement. The ash of all incinerators is collected and removed from Antarctica.

...

(6) Training and Awareness

...

Awareness

A notice board is used for promoting awareness amongst personnel on environmental protection issues, e.g. littering.

...

(8) Tourism

The Indian government's policy is not to allow tourism in Antarctica. Maitri station has not received requests for tourist visits.

picture © Dr Mahesh B.S., National Centre for Antarctic and Ocean Research (NCAOR)

(9) Summary and Findings

The inspection team gained the impression that the station has to cope with aging equipment and facilities. Further upgrading and improvement of the facilities and operation of the station, including the removal of redundant equipment and materials, is highly recommended.

Despite these disadvantages, the staff are highly motivated to fulfill all requirements for a safe and successful wintering period.

A formal classification and reporting system should be considered to properly capture and deal with accidents and incidents.

Waste management and disposal at the station should be far more stringently implemented, especially the storage and disposal of old fuel drums. The replacement of the old fuel incinerator, with the appropriate emission controls, is recommended.

A comprehensive fuel spill response plan should be drawn up and a more effective method of retaining any spill, should it occur, should be implemented at the fuel farm. It is recommended that the precast concrete slab liner and UV protective polypropylene sheet (mentioned in the Background Paper) should be installed at the treated waste water collection pond in order to avoid any permeation into the ground or surrounding area.

...

Halley VI Station (United Kingdom)

(1) Overview

Halley VI is a year round station located at the Brunt Ice Shelf since February 2012.

Halley station was transferred from its former position to the new one because of the instability of the Brunt ice shelf.
...
The station is operated by the British Antarctic Survey (BAS). The inspection was performed on 15 January 2013. The inspection team visited the station from 11:30 to 17:30 hrs UTC.

On the day of the inspection, 86 persons were present at the station. Comprehensive documentation according to the checklist was provided to the inspection team.
...
This was the first visit of an inspection team after the construction of a new main building and the relocation of the entire Halley station. The manufacturing and onsite construction works for the new building started in 2007/08 and the station and relocation was completed in 2012/13.
...
(2.1) Station facilities and description

...
The main building is a new construction which was completed during the current season. The official inauguration of Halley VI will take place on 5 February 2013.

At Halley VI station all buildings are surface mounted. There is one below-surface facility. This is the Magnetometer shaft, located in the "electromagnetic quiet area" to the east of the Station.
...
The modules of the new building can be raised up by a hydraulic system in order to compensate the yearly snow accumulation. The modules are founded on skis and can be separately moved to another location, if needed. This new design enables a sustainable usage of the building on a flowing ice shelf in the long-term.
...
(2.2) Station operations

Fuel storage and usage

...
Fuel management plans, oil spill contingency plans and oil spill action plan for Halley VI station are available.
...
Fuel pumping procedures are in place. BAS procedures require personnel to continuously monitor any fuel pumping operation from start to finish.

There are no fixed pipelines in use. There is an aviation grade hose connecting modules E1 and E2 across the bridge, this is to allow the building to flex without damaging the fuel line.

Mobile refuelling hoses are aviation grade double-band, double thickness low temperature hoses.

Transit tanks are filled with AVTUR during station relief

from the ship at the ice-edge and towed up the ramp. The head of the ramp and transferred directly to the station. Static fuel tanks at the station are normally filled directly from mobile bulk fuel containers, which are towed from the fuel depot as required.

...

Avery-Hardell dry-break valves are fitted to all refuelling hoses to eliminate any spillage.

The fuel depot is approximately 800 m to the west of the station, well away from snow used for fresh water supplies. There is no wildlife in the area.

Ten double-walled bulk fuel tanks of AVTUR are kept in the fuel depot. Drummed fuel and petrol is held in 205 l drums in the fuel depot and at the ski-way. Other oils and lubes are kept in 205 l, 100 l and 25 l drums in various locations on station, including: energy modules, garage, ski-way and other external cabooses.

While there have been no major spills in the last 5 years, there was one small spill involving up to 410 l in December 2009, which was reported under the BAS Accident, Incident, Near miss and Environmental (AINME) reporting system. An Avery-Hardall coupling failed during refuelling of the flubbers in the Halley V tunnel. The fuel was contained within the bund around the flubbers. The spilt fuel was then cleaned up without contamination of the surrounding environment.

Power generation and management

...

The fuel consumption for Halley V, when it was fully operational, was 240 m^3 per year. During the construction of Halley VI there was greater consumption because of the need to run two locations. Halley VI has been running since February 2012 and the average fuel consumption over that period has been 31 000 l per month. The following efforts are undertaken to reduce overall fuel usage:

- Finalise the Building Maintenance System (specialist engineer on site in December 2012)
- Complete the lagging of the modules (January/February 2013)
- Potential future use of renewable energies.

...

Water systems (supply, storage, treatment)

Two snow melt-tanks, each 7 m^3 capacity provide the station's main fresh-water supply. Availability depends on manpower and demand – water conservation is in place. Vacuum drainage for toilets, showers, etc. significantly decrease water consumption and all personnel are reminded to keep water usage to a minimum, particularly in summer when there are more people on station. Melt tank fill is limited to once per day and there is a good quality water supply.

The average water consumption rages from 12 m^3 (winter) to 23 m^3 (summer) per month.

...

(6) Training and Awareness

...

Awareness

The Antarctic Treaty, Madrid Protocol and UK Antarctic Act of 1994, as well as other relevant documents, are readily available on the BAS website and intranet. The programme is well-managed using the BAS intranet to link information between the station and the United Kingdom. All records of training conducted at Halley are stored on the training database at the station.

...

(8) Tourism

Requests by tourists to visit the station are considered on a case-by-case basis. The last request in this regard was from a tourist ship in 2000, which was granted. The prevalent criterion is whether such visits will interfere with ongoing station operations or not.

(9) Summary and Findings

In general, the inspection team was impressed by the modern design and the functional and most comfortable central area of the new station. Both in design and in its scientific endeavours, the station convincingly combines tradition with modern requirements.

Although not inspected, the inspection team was advised that the old Halley V station has been fully decommissioned in accordance with the 2006 CEE for the Proposed Construction and Operation of Halley VI Research Station, and Demolition and Removal of Halley V.

The transportation of the remains of Halley V was a coordinated effort by Norway, Belgium and the United Kingdom using Dronning Maud Land Shipments (DROM-SHIP) and was noted by the inspection team as a model for future sharing of infrastructure.

The various documentation and response systems at Halley VI are commendable, especially the AINME electronic reporting system (which can be completed anonymously) for the reporting of accidents, incidents, near misses and environmental incidents to the relevant managers at BAS for action, which is exemplary.