

**Canarie IIP-03 “Undersea Window” Project Milestone 3 Report**  
**Appendix 1**  
**Report on Underwater Component Development**

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**Underwater Component Deployment Plan**

The underwater component deployment plan has been modified as discussed below:

1. Deployment of complete system on dry land at the VENUS shore station (Institute of Ocean Sciences, Patricia Bay, Sidney, BC).
  - The entire system, comprised of the HD camera housing, pan-tilt, tripod, and all cabling, will first of all be attached to the VENUS shore station on site at Patricia Bay.
  - The entire system will be powered up and all mechanical and electrical sub-systems tested at this location. For example, operation of the pan-tilt system with the HD housing attached.
  - The network system will then be activated and the system tested locally from the VENUS shore station site.
  - The entire system (hardware, network and software) will then be tested under the control of the team at McGill. This test is critical because the entire system and operating procedures will be thoroughly tested (all the way back to McGill).
  - Any system bugs will be dealt with at this point.
2. Connection of the system to the network and deployment in Pat Bay Harbour.
  - The entire system will be undergo an initial “wet test” in the harbour at Patricia Bay.
  - This series of tests will essentially replicate the tests conducted at the conclusion of Step 1 (above).
  - This is a critically important test phase because of the introduction of the entire system into the saltwater environment. The conditions, except for the higher water pressure at the VENUS node, will be identical to the final test, but access will be much easier.
  - The FlexMet Technologies Inc. remotely operated vehicle (ROV) and support boat will be employed at this stage to assist with the camera system and cable deployment. The ROV will also be employed to monitor the system operation during this test phase.
  - As above, the final step will be to thoroughly all the system capabilities directly from McGill.
3. Connection of the system to the VENUS node and final test on the network. It is anticipated that this will be done in early 2007, after the end of the project, due to availability of the MV Strickland.
  - The Undersea Window project’s tether will be attached to the Saanich Inlet VENUS node prior to the tripod’s deployment. The other end of the tether will be buoyed-off and connected to the tripod and camera housing a few days later.
  - The tripod will be deployed, along with the FlexMet ROV, from the MV Strickland. The ROV will gather the buoyed-off tether and connect it to the tripod and camera housing.

- The tripod system will then be lowered back to the VENUS node site (with the tether attached). The ROV will also be used to monitor this deployment.
- Once deployed on the sea floor, the connection through VENUS to McGill will be activated. The camera will then be released from its docking position on the tripod frame. The docking position is required to ensure the camera and pan/tilt units are not damaged during deployment
- To recover the tripod the camera will once again be docked and an acoustic release, with a redundant backup, will release a recovery buoy that is tethered to the tripod. This tether will be used to pull the tripod to the surface. As an added safety measure a large shackle on the top of the tripod frame will be available to recover the tripod using the ROV.