Appendix D – WindSentinel Buoy Technical Details

AXYS TECHNOLOGIES INC.

WindSentinel™

Wind Resource Assessment Buoy

Technical Proposal for

Dominion VOWTAP

April 24, 2014

AXYS OCEAN Renewables

Prepared by

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The Need : The Solution

Offshore wind farm developers need to gather specific data required to support the financing and development of their project, typically in challenging and hostile environments where existing data is scarce.

The current approach is to apply the meteorological mast solution used for onshore wind to the offshore environment. This carries numerous challenges that are not seen onshore:

- **Cost**: the current cost of an offshore met mast is estimated at around €5 million – approximately US$7.5 million
- **Permitting**: the time taken to receive permitting can range from months to years
- **Inflexibility**: once the mast is constructed it can only be redeployed to another location at a significant cost, if at all. As a result, the costs and time taken to construct the mast can only be offset against a single location

The WindSentinel™ has been specifically developed to provide a solution for this need:

- **Lower Cost**: the WindSentinel™ costs around €1 million – approximately US$1.5 million
- **Easier Permitting**: since the WindSentinel™ is a floating asset, the time taken for regulatory approval is significantly reduced
- **Flexible System**: the WindSentinel™ can be deployed rapidly, and then easily redeployed to multiple locations

AXYS Technologies, a market leader in marine sensor system integration, have combined the trusted NOMAD platform with the innovative Vindicator® III LiDAR and a range of recognized met ocean sensors to create the WindSentinel™ – a reliable solution to the challenges of offshore wind resource assessment.

1. WindSentinel™ Advantages

- Perform turbine-height, offshore wind resource assessments from a buoy
- ±20 meter range gate probe depth allows for real-world measurements from 30m to 150m (special orders for units to measure up to 200m)
- Easy to deploy yet high survivability factor in extreme marine conditions
- Superior next-generation solid state laser technology with no moving parts allows for longer, uninterrupted operating time
- Continuous two-way remote access to all onboard systems and data in real time
- Multipurpose and flexible to accommodate virtually any sensor and telemetry
- Easy to modify as future needs evolve (easily accommodates new sensor payloads)
- Easy to service (modular system design)

2. AXYS Technologies Inc. Profile

Overview

AXYS Technologies Inc. (AXYS) is an ISO 9001-2008 registered Canadian company with 40 years experience in the design, manufacture and installation of remote environmental monitoring systems worldwide. AXYS applies its extensive knowledge and experience to freshwater, marine, land-based monitoring stations, and offshore wind resource assessment systems that measure aquatic, oceanic and atmospheric parameters. Offered in addition are technical field services to train and support customers in the operation and maintenance of all products. AXYS systems and turnkey solutions utilize proven cost-effective technology related to a wide range of applications.

AXYS has built and commissioned more than 400 meteorological and oceanographic stations of various types around the world, in over 30 countries. Clients include international military agencies, environmental agencies, coastal engineering firms, oil & gas companies, mining companies, wave energy research companies, port authorities, meteorological agencies, and oceanographic research institutes.

Core Technology

The data collection platform developed by AXYS is the WatchMan500™ Network Solution. The WatchMan500™ node was designed as the new generation of payload for the AXYS marine buoy and terrestrial weather information systems to provide desktop to sensor monitoring and control, including dynamic onboard control and data storage capabilities. This platform is the ideal solution for any application requiring data monitoring, collection, control, processing, or remote system management. It can interface with custom or commercial off the shelf sensors, equipment, software, and telemetry.

Services

The AXYS Service Team has extensive experience in the training, deployment and maintenance for operational buoy programs. AXYS technicians are capable of board level diagnostics/repair in the field, and individual electronic component level diagnostics/repair in the lab. They handle client training that covers all aspects of buoy and systems assembly, function, installation, preventative and corrective maintenance, repair, testing, calibration, transmission protocols, data storage, data analysis, data presentation, and real-time data distribution.

AXYS can provide full turnkey installation programs for any of our products, anywhere in the world. Working with our clients and our regional agents, we will co-ordinate the installation or service logistics required to ensure the installation or repair of AXYS systems.

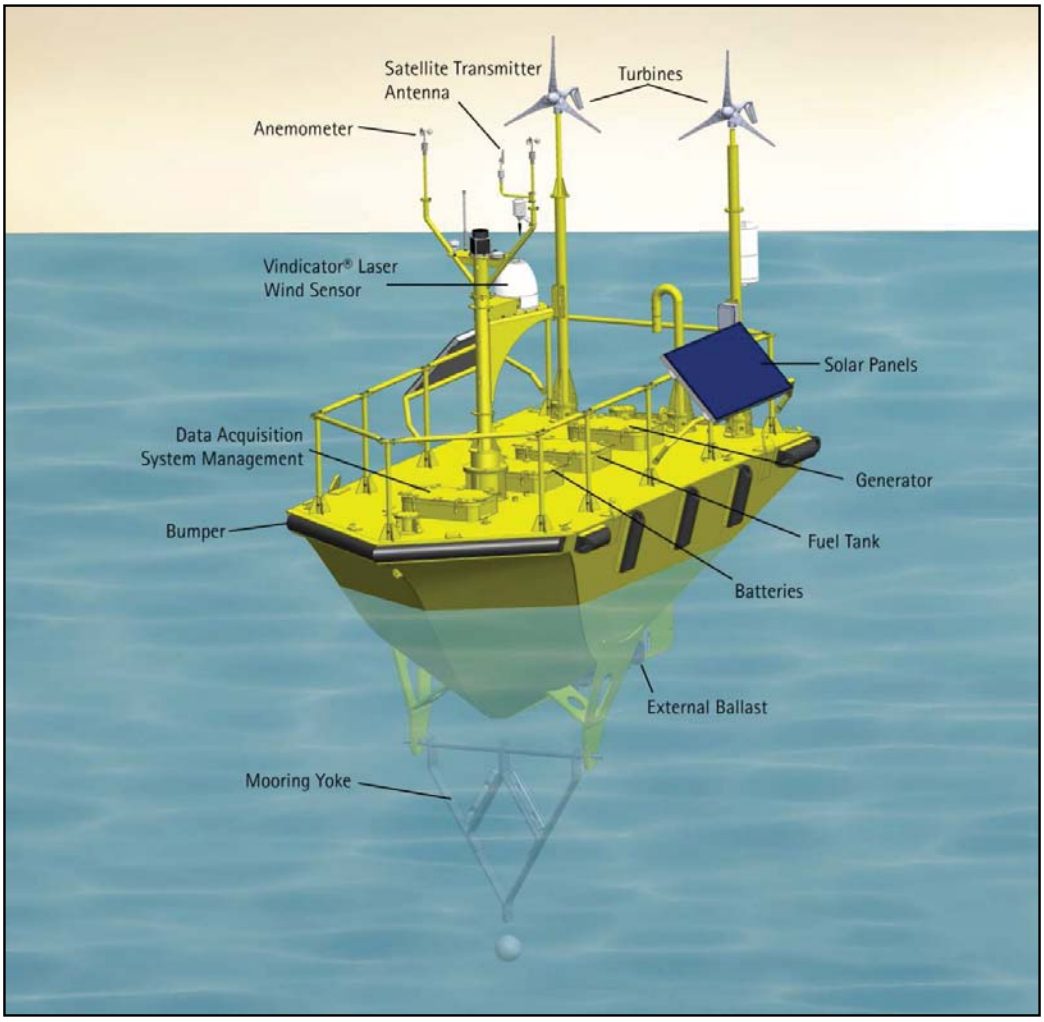
Quality

AXYS is a registered **ISO 9001:2008** company. Our extensive quality assurance program ensures that our products are manufactured to the highest standards of quality using a rigorous and documented design, manufacturing and testing process.

3. WindSentinel™ System Overview

The WindSentinel™ is the world's first wind resource assessment buoy capable of measuring wind data at heights of conventional offshore wind turbines.

At the heart of the WindSentinel™ is the WatchMan500™ controller paired with the Vindicator® III LiDAR a next generation solid state laser wind sensor designed to accurately measure wind from moving platforms. Using three fixed beams this LiDAR can take single focused or multi-point measurements up to a maximum range of 150 meters.* The resulting wind data is acquired, processed and transmitted via a selection of telemetry options through the AXYS WatchMan500™. These components have been engineered into the AXYS NOMAD buoy: a well-proven proprietary platform designed to perform in extreme marine environments.



4. Standard WindSentinel™ System

NOMAD Buoy Platform

The WindSentinel™ is built on the NOMAD buoy platform. The NOMAD has been successfully deployed worldwide for over 50 years. It withstands extreme marine weather, is easy to service with low operational costs.

NOMAD buoy deployed in Environment Canada Weather Buoy Network

The NOMAD (Navy Oceanographic Meteorological Automatic Device) hull was originally designed in the 1940s for the U.S. Navy's offshore data collection program. The U.S. National Data Buoy Centre (NDBC) later purchased surplus hulls, outfitted them with new payloads and placed them in the U.S. network of permanent buoy stations with their 10 and 12 meter discus buoys.

In use for the last 25 years, the NOMAD design was adopted by Canada's Atmospheric Environment Service for deep ocean stations off the East and West coasts of Canada.

5. Standard Sensors

A standard WindSentinel™ system includes sensors for the measurement of:

- Wind speed, direction and turbulence over 6 range gates at up to 150m from the buoy platform using a LiDAR
- Wave height and direction
- Wind speed at buoy level using two cup anemometers
- Wind direction at buoy level using a wind vane
- Air temperature
- Relative humidity
- Barometric pressure
- Water temperature

Vindicator® III LiDAR

Type	Solid State Pulsed Doppler Velocimeter
Manufacturer	Optical Air Data Systems
Min Wind Speed	0 m/s
Max Wind Speed	90 m/s
Sensing Range	30 to 150 meters* (+/- 20m probe depth)
Range Gates	6 - Customer Defined
Wind Speed Accuracy	0.1 m/sec at 1 Hz data rate
Relative Angular Accuracy	±0.5° @ 8 m/s speed, 1 Hz

**up to 200m with special order*

The Vindicator® III LiDAR is a rugged, all fiber optic, fully motion compensated, next generation laser wind sensor designed to measure a volume of air simultaneously at various measurement ranges up to 150 meters from a moving platform. This feature makes it an excellent sensor for performing wind prospecting and resource assessments that require high degrees of accuracy from marine buoys. The underlying technology of the Vindicator® III LiDAR derives from aerospace application and has been designed to withstand the heavy vibration and motion experienced by military helicopters in rugged, dusty and salt water environments and extreme temperature regimes.

The Vindicator® III LiDAR includes the new air blade lens cleaning system. An advance over the traditional wiper blade, the air blade uses pressured air combined with lens cleaning fluid to ensure that the LiDAR lens are kept clear of obstructions.

TRIAXYS™ Directional Wave Sensor

Type Solid state 6 degrees of freedom motion sensor
Manufacturer AXYS Technologies Inc.
Description TRIAXYS™ Directional Wave Sensor

Resolution/Accuracy

	Range	Resolution	Accuracy
Heave	±20 m	0.01 m	Better than 2%
Period	1.6 to 33 seconds	0.1 sec	Better than 2%
Direction	0 to 360°	3°	3°
Water Temp.	-5 to +50°C	0.1°C	±0.5°C

This rugged solid-state sensor is located in the instrument compartment at the centre of the buoy. It contains three force balance servo accelerometers that measure acceleration along each of the three orthogonal axes, and three angular rate gyros to measure rotation about the yaw, pitch and roll axes and a magnetic compass. Data is processed in the sensor.

Simple Wind

Wind Speed

Type Cup
Manufacturer Vector Instruments
Model Number A100R/K
Maximum Wind Speed over 75m/s (146Kts)
Accuracy 1% of reading between 10 and 55m/s, 2% above 55m/s. 0.1m/s for 0.3..10m/s.
Threshold 0.2 m/s

Wind Direction

Type Vane (integrated sensor)
Manufacturer Vector Instruments
Model Number W200P-01/WR
Range 360° mechanical angle, continuous rotation allowed
Accuracy +/-3° in steady winds over 5m/s
Threshold 0.75m/s

Vector Instruments specialize in the manufacture and sale of quality, robust, professional wind speed and wind direction measuring equipment. The A100 R/K anemometer is among the very few available having Class 1 performance ("First Class") according to the requirements of IEC and MEASNET standards.

The WindSentinel™ can also support simple wind sensors from a range of other manufacturers.

Air Temperature and Relative Humidity

Type	Pt 100 RTD (temperature) Rotronic Hygromer C94 (relative humidity)
Manufacturer	Rotronic Instrument Corp.
Model	MP101A
Temperature	
Range	-40°C to +60°C
Resolution	0.1°C
Accuracy	±0.2°C at 20°C
Relative Humidity	
Range	0 - 100% R.H.
Resolution	0.1%
Accuracy	±1.0%RH at 20°C

Air temperature and relative humidity are combined into one sensor. It is housed in a solar radiation shield to prevent direct or reflected solar radiation from distorting the measurements. The Rotronics MP101A is mounted on the mast 3.7 m above the water.

Please note - RH sensors in marine applications are not covered by the standard AXYS warranty

The WindSentinel™ can also support air temperature and relative humidity sensors from a range of other manufacturers.

Barometric Pressure

Type	Barometric pressure sensor
Manufacturer	RM Young
Model Number	Model 61302
Range	500 - 1100 hPa
Resolution	0.01 hPa
Accuracy	± 0.2 hPa at +25ºC
Temperature	-40ºC to +60ºC

The barometer is located in the WatchMan500™ housing, but is connected (via a desiccant box) to the outside with hoses so that it senses outside ambient air pressure.

The WindSentinel™ can also support barometric pressure sensors from a range of other manufacturers.

Water Temperature

Type	Temperature Probe
Manufacturer	YSI
Model	703
Accuracy	±0.15°C from -30°C to +100°C
Specifications	12 Fr., 4.0 mm diameter

The WindSentinel™ can also support water temperature sensors from a range of other manufacturers.

6. Optional Sensors

The Standard System comes equipped with a secondary WatchMan500™ controller node to support future additional sensor implementations. Each additional sensor requires a sensor module to support interface with the WatchMan500™ controller.

While the WindSentinel™ standard platform is equipped with a secondary controller node to support sensor expansion, other additional components may be required, depending on the sensor selected. Other components include, but are not limited to;

- Moonpools
- Moonpool cages
- Deck mounts
- Mooring mounts

It should be noted that a number of the additional sensors have a service cycle of 90 days or less. When specifying sensors for the WindSentinel™, users should take this into account when planning the service cycle of the system as a whole.

Acoustic Doppler Current Profiler (ADCP)

Type	Aquadopp Acoustic Doppler Profiler
Manufacturer	Nortek
Model Number	600KHz Aquadopp Profiler
Profiling Range	30-40m
Accuracy	1% of measured value ±0.5 cm/s
Cell Size	1-4m
Velocity Range	±10m/s

The current profiler provides current speed and direction in up to 128 different layers of the water column. The system electronics integrates Doppler velocity with temperature, pressure, tilt, and compass sensors – all standard with each instrument. The system also has a built-in solid state recorder and batteries. A variety of head designs ensures optimal measurement conditions, regardless of deployment surroundings. The current profiler is insensitive to biofouling and has no moving parts.

The WindSentinel™ can also support ADCP sensors from a range of other manufacturers.

Solar Radiation

Manufacturer: Licor
Model: I-200SA
Sensitivity: Typically 90 µA per 1000 W m-2
Linearity: Max deviation of 1% up to 3000W m-2
Stability: <+/-2% change over a 1 year period

The WindSentinel™ can also support solar radiation sensors from a range of other manufacturers.

Water Quality Multi-Sonde

Type Water Quality Monitoring Multi-Sonde
Parameters Salinity/Conductivity
Dissolved Oxygen
Chlorophyll Fluorescence
Turbidity
Water Temperature & Depth
Manufacturer WET Labs
Model Number WQM

The WQM incorporates WET Labs' fluorometer-turbidity and Seabird's CTD sensors, allow data acquisitions from the following six (6) water quality parameters.

Conductivity	
Range	0-9 S/m
Accuracy	0.003 mS/cm
Resolution	0.0005 S/m

Dissolved Oxygen	
Range	120% of saturation
Accuracy	2% of saturation
Resolution	0.035% of saturation

Temperature	
Range	-5 to 35°C
Accuracy	0.002°C
Resolution	0.001°C

Depth	
Range	0-100 or 200m
Accuracy	0.1% FS
Resolution	0.002% FS

Fluorescence	
Range	0-50 µg/l
Accuracy	0.2% FS µg/l
Precision	0.04% FS µg/l
Wavelength	EX/EM 470/695 nm

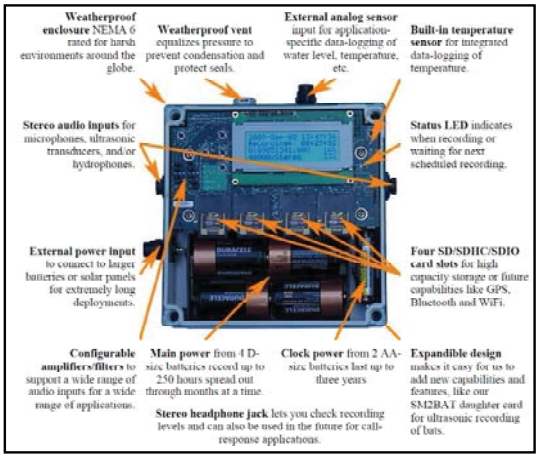
Turbidity	
Range	0-25 NTU
Accuracy	0.1 FS NTU
Precision	0.04% FS NTU
Wavelength	700 nm

The WindSentinel™ can also support water quality sensors from a range of other manufacturers.

The WindSentinel™ can support a range of innovative acoustic Bird, Bat and Marine Mammal detection sensor systems.

Type	Acoustic Bird, Bat and Marine Mammal Sensor System
Manufacturer	Wildlife Acoustics
Model Number	SM2 Platform

- NMEA enclosure operates in marine environments
- Microphones operate in marine deployments
- Low power budget
- The microphones are Omni-directional
- If the types of targets are known the sensor can be configured to filter out higher and lower frequencies.
- Sensor can be configured for many different sampling regimes
- Supports up to 4x32GB data cards for long term deployments
- Operation can be monitored by WatchMan500



7. Navigation, Orientation and Position

Global Positioning System (GPS)

The Inmarsat Skywave DMR800D satellite transceiver is mounted on the top of the superstructure on the mast at 2.5m above the water level.

Model DMR800D
Manufacturer Skywave

Alternatively, AXYS can offer the Garmin GPS 16.

Compass

Type Fluxgate
Manufacturer KVH Industries Inc.
Model Number KVH C-100
Direction Accuracy ± 0.5º
Resolution 0.1º
Variation Programmable ±180°
Temperature -40° to +65°C (Storage -57° to 71°C)

The compass is mounted inside the WatchMan500™ housing. The KVH C-100 is a micro-processor-controlled fluxgate compass that senses the horizontal component of the earth's magnetic field to determine buoy orientation. It has an internally-gimballed element to accommodate pitching motion of the buoy and it is self-compensating for any buoy magnetic effects. This feature makes this sensor an excellent choice for the buoy.

Navigation Visibility Lamp

Manufacturer Carmanah Technologies Corporation
Model M701-5
Visibility 3 NM (5.4km)
Peak intensity ~ 22 Candela

Carmanah's Model M701-5 offers exceptional value in a compact, IP68 waterproof, user-friendly design, with optional GPS capabilities. This solar marine lantern features 3 nautical miles visibility and a removable battery pack that extends the lantern life beyond 5 years.

Originally designed and built under contract with the U.S. Coast Guard, Carmanah 700 series lanterns are the first solar-powered lanterns using light emitting diodes (LEDs) to enter the U.S. Navigational Aid System. As the smallest lantern in the 700 series, the Model M701-5 and M701-5 GPS lanterns are in use by Coast Guards, Navies, and Ports Authorities.

Alternatively, AXYS can offer the Tideland M-LED or Carmanah Technologies 704-5 solar powered light.

WatchCircle™ Position Verification

To mitigate buoy loss due to mooring failures, the WindSentinel™ buoy features our intelligent WatchCircle™ location warning system. The WatchCircle™ uses buoy coordinates from the onboard GPS receiver to determine whether the buoy is within a predefined area. Should the buoy drift out of its WatchCircle™, an Inmarsat D+ satellite transmitter is activated and location messages are transmitted, enabling the tracking of the buoy until recovered. Use of the Inmarsat D+ satellite transmitter enables a redundant position message to be received even if the buoy drifts out of VHF or cellular range.

8. Power Supply

The WindSentinel™ power pack has been specifically engineered to meet the system's power budget on the NOMAD platform.

Sealed lead acid rechargeable batteries power the WindSentinel™ buoyed system. These batteries are charged by a wind generator and are backed up by a high efficiency diesel generator for times of extended lulls in the wind. Triple redundancy is provided through the use of 3 x 20 watt solar panel array mounted on the superstructure to avoid damage by waves – these are available for instances where both wind and diesel generators are offline. The solar system will allow the WindSentinel™ to inform the operator that the main power systems are down and to continue to monitor / track the buoy. A regulator protects the batteries from being damaged by possible overcharging.

Onboard Wind Generator

Manufacturer	Zephyr Corporation
Model	AirDolphin PRO
Yaw Control	Free yaw (360 degrees)
Direction Control	Original Swing-Rudder System
Start-up Wind Speed	0m/s (Power-Assist Function)
Cut-in Wind Speed	2.5m/s, 5.6mph
Rated Power	1kW (12.5m/s, 17.9mph)
Rated Rotor Speed	1000rpm
Maximum Power	2.3kW (20m/s, 44.7mph)
Maximum Rotor Speed	1000rpm (20m/s, 44.7mph)
Mass per Watt	17.5g (1 oz.)/W (at rated power)
Power per Square Meter	393W/m^2 (36.5W/ft2) (at rated power)

The AirDolphin has a compact, light, and simple no-screw body structure, inspired by traditional Japanese handicraft techniques.

The core rotor has three ultra-light carbon fibre blades, embossed to dramatically reduce air flow noise.

The AirDolphin is programmed to automatically rotate 10 seconds per minute in low wind conditions, to kick-start rotation. The robust body and power generation unit can produce power at up to 50m/s wind speed, which is more than double speed of other existing systems.

Onboard Fuel Agnostic Generator and Fuel Tanks

The WindSentinel™ uses a high efficiency generator as its back up power source. The generator module is designed to withstand some of the world's harshest environments while continuing to perform efficiently and reliably.

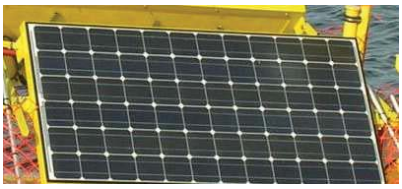
The generator is available in a number of variants, depending on the fuel required to meet our clients' needs.

The onboard generator and fuel tanks are mounted in the holds of the buoy and allow the buoy to operate from 3 months to a year before requiring refuelling.

The back up generator will automatically come on during times when the wind generator power source is experiencing extended lulls in wind and thereby power output.

Solar Panels

The WindSentinel™ solar module is designed to withstand some of the world's harshest environments while continuing to perform efficiently and reliably.



Batteries

The WindSentinel™ uses the Sunlyte 12-5000x. The battery payload is comprised of maintenance-free, sealed, re-chargeable lead acid batteries.

Power Distribution and Regulation

Solid-state battery charger/regulator optimizes the use of solar power for battery re-charging. It also prevents over-charging.

9. Data Acquisition, Processing and Transmission System

WatchMan500™ Controller and Data Logger

The WatchMan500™ is the core technology for each AXYS data acquisition system. With WatchMan500™ technology as the heart of the WindSentinel™ buoy, each system has an intelligent, configurable sensor I/O platform with two-way communication, designed for long-term operations in any location or environment. This platform is the ideal solution for any application of the WindSentinel™ requiring data collection, control, processing and/or remote system management.

Flexibility – The WatchMan500™ Data Acquisition can interface with virtually any custom or off-the-shelf sensor equipment, software and telemetry.

Features & Benefits

- Modular design allows future system expansion
- Easy sensor integration
- Low cost
- Versatile and easy to use
- 2 way communication and diagnostics
- Intuitive 'Menu' driven program reduce initial learning curve
- Fast station commissioning
- Network can be managed from anywhere

10. AXYS Data Management System Software Suite

The AXYS Data Management System (DMS) is a suite of PC software applications used to control configuration, data collection, data processing and data presentation of a WatchMan500™ controlled WindSentinel™ system via the chosen type of telemetry.

Data Management System

The DMS is a user friendly, graphical user interface that allows users to remotely configure operational parameters giving complete remote control over the WindSentinel™ system. Data collected and processed by the DMS is stored in a central database and/or ASCII text files.

SmartWeb™

AXYS SmartWeb™ is a PC software web application that allows graphical presentation of data collected from the WatchMan500™ controlled station via a standard web browser. SmartWeb™ is linked to the DMS database and can dynamically update the presented data on a configurable interval. SmartWeb™ has the following features:

- Complete role based security
- Data grid display of any data message based on record count or date range
- Multiple field (series) graphing with control of graph style, series type, marker type and date range
- Data export to CSV, XML or Microsoft Excel formats

SmartView™

SmartView™ is a Windows application used to display, graph, map and export data collected by the DMS for a WatchMan500™ Network Solution, and to view WatchMan500™ station configuration information. SmartView™ enables WindSentinel™ clients to:

- Display messages from a station or multiple stations
- Graph data fields from multiple messages and/or stations
- Export data to CSV, XML, or Excel format
- Explore station configuration

11. Telemetry

Built with WatchMan500™ core technology, each WindSentinel™ buoyed system allows for the use of virtually any telemetry medium. However, the data telemetry requirement must address a number of technical issues and priorities in order to arrive at an optimal communications solution. Issues that must be taken into consideration include:

- Existing communications infrastructure at deployment location
- VHF transmit distances
- Cellular coverage available
- Satellite options available
- Availability of satellite coverage
- Volume of data to be transmitted
- Frequency of transmissions
- Transmission costs
- Power budget
- Location

Below are just some of the telemetry options available for each WindSentinel™ system. Note that AXYS Technologies Inc. is a registered and experienced service provider to both Iridium and Inmarsat D+ Satellite communications solutions.

Clients using Iridium or Inmarsat satellite telemetry need to complete an AXYS Telemetry Services Agreement at time of order to ensure that services are activated at time of initial system testing. Refer to sample in Appendix X.

Clients using CDMA or GPRS services are to ensure that the services are activated and appropriate system identifiers / modem cards are to be supplied to AXYS at time of initial system testing.

Iridium

The Iridium constellation of 66 low-earth orbiting (LEO), cross-linked satellites is the largest commercial satellite network in the world. Iridium systems are primarily focused on remote phone and digital data service. Iridium best suits situations where large amounts of data need to be transmitted. Iridium telemetry also allows for 2-way communications for remote management of the WindSentinel™ system. Iridium's data capacity allows complex data packages, such as spectral wave data from WindSentinel™ buoys, to be transmitted. AXYS is an Iridium Service Provider.

Inmarsat and Skywave DRM800D Marine Satellite

Inmarsat is a network of 5 high-orbit geostationary satellites. Skywave DRM800D communications are available on the WindSentinel™ for transmission of position and/or, meteorological, water quality, current and wave data as well as buoy status information. The WindSentinel™ is typically configured to send position transmissions only during alarm status. For system function verification the DRM800D transmitter is routinely set to test transmit once every 14 days (can be modified during setup).

The 5 Inmarsat satellites follow a high circular orbit in the plane of the equator meaning users (except in Polar Regions) will seldom have to switch from one satellite to another. The advantage is that few data transmissions are lost and more timely position information is available. AXYS is an Inmarsat and Skywave DRM800D Service Provider.

VHF

VHF telemetry will provide low-cost and reliable line-of-sight, 2-way communications to meet primary telemetry needs.

GPRS Cellular

General Packet Radio Service (GPRS) is a mobile data service available to user of the Global System for Mobile Communications (GSM). It provides data rates from 56 up to 114 Kbps. GPRS data transfer is typically charged per kilobyte of transferred data and in this application it is often the most reliable and cost effective telemetry option. AXYS regularly uses this telemetry solution where GPRS service is available.

12. Additional Features

Cabling

External cabling is AXYS WaterBlock, high quality and heavy-duty neoprene-coated cable proven for marine use. WaterBlock prevents wicking of moisture around cable terminations, which is a common failure among competitors' systems. All connectors are proven top quality components manufactured for marine environments. Sensors are connectorised to simplify assembly and service maintenance. Cables routed from the battery compartment to the superstructure pass through watertight fittings. All cables are carefully labeled for ease of assembly.

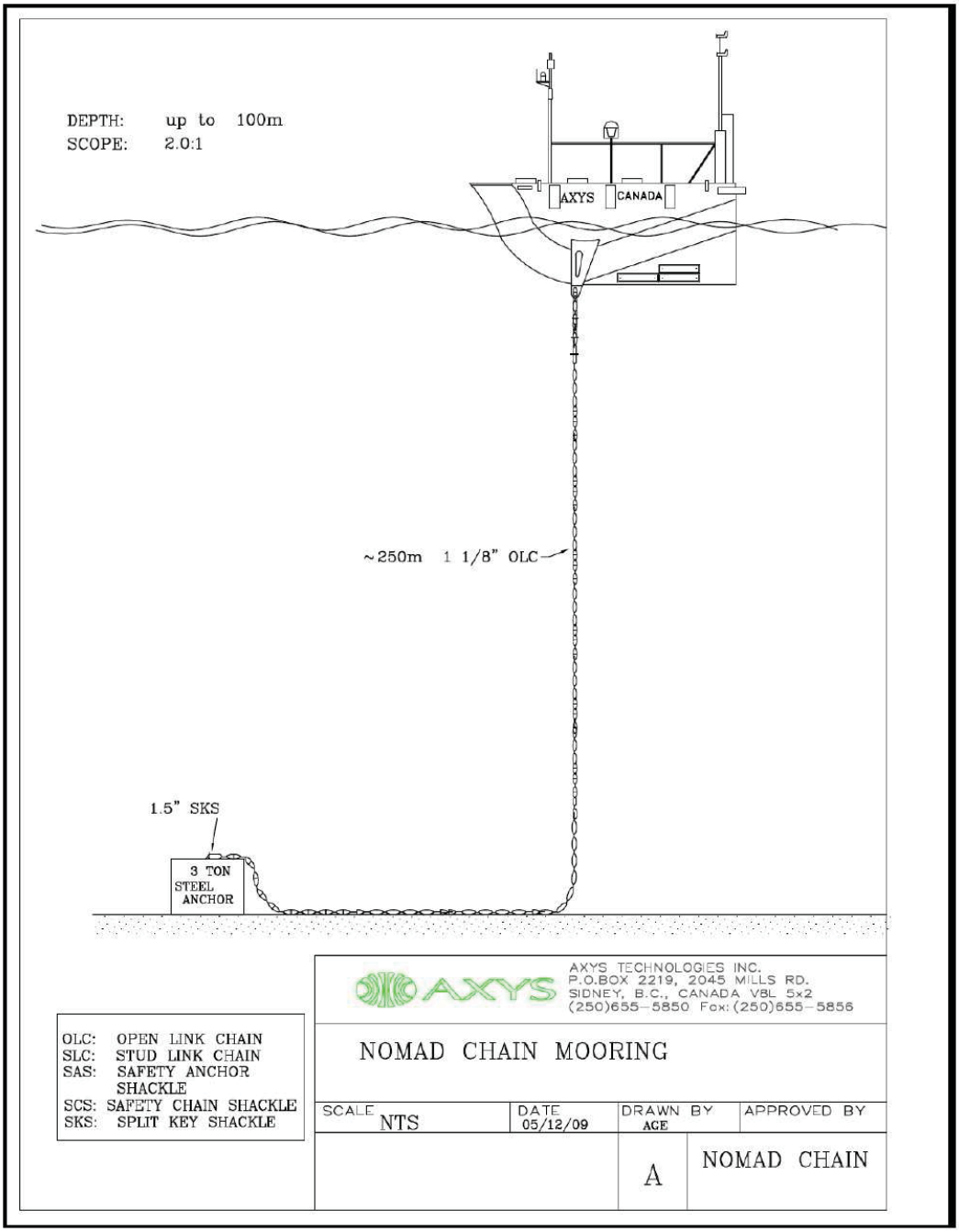
Fasteners

All sensors, solar panels, antennas, lights, etc. are mounted using specialized fasteners that prevent corrosion failure and help prevent vandalism of buoy components as they require custom tools. Hard, failsafe alloy bolts are used to secure the superstructure. These components survive years of marine exposure and cannot easily be tampered with.

Moorings

Our extensive experience with mooring operational buoys ensures we will provide a computer designed and dynamic load-tested mooring that will provide maximum reliability and long-term performance. The mooring design will take the following factors into consideration, if applicable:

- water depth
- type of deployment vessel and equipment available on board
- desired length of life of the mooring
- vessel traffic in the vicinity of the mooring
- current speed
- tides
- waves
- winds
- fish bite
- type of subsurface instrumentation


DEPTH: up to 100m
SCOPE: 2.0:1
AXYS CANADA
~250m 1 1/8" OLC
1.5" SKS
3 TON STEEL ANCHOR
OLC: OPEN LINK CHAIN
SLC: STUD LINK CHAIN
SAS: SAFETY ANCHOR SHACKLE
SCS: SAFETY CHAIN SHACKLE
SKS: SPLIT KEY SHACKLE
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NOMAD CHAIN MOORING
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DRAWN BY AGE
APPROVED BY
A
NOMAD CHAIN