BASCOM-TURNER INSTRUMENTS

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THE SENTRY TIMES

Inside this issue:

WALKIN' IN A WINTER WONDERLAND

Gone away is the blue bird, but that's okay because there's plenty to keep us busy and warm around here. Our strong sales have continued straight through the holidays, and we expect 2009 to be another excellent year.

While previous issues of the Sentry Times have covered our lines of detectors, this issue focuses on Bascom-Turner's Network Calibration (N-CAL) system, which has proven very useful to our customers for tracking and managing their detector inventories. Even small groups can benefit from the automatic calibration, operational checks, and sensor maintenance that a docking station provides.

We also include an article on methane sensor cleaning, a process exclusive to Bascom-Turner. Using our proprietary boost gas technology, our customers are able to maintain natural gas sensors at peak performance and extend their useful life.

In other news, keep an eye out for our article on advances in pipeline surveillance instrumentation, featuring the Gas-Rover, set to appear in World Pipelines (published in the UK).

And don't forget to see us at upcoming shows: we'll be at the SGA's Spring Gas Conference and Expo March 16-19 in Charlotte; the WEI's Operations Conference March 31-April 3 in Long Beach; the AGA's Operations Conference May 19-21 in Pittsburgh; and the EAPA's Mid-Atlantic Gas T&D Seminar and Expo May 28-29 in Grantville, PA. Hopefully by then things will be a little less white!

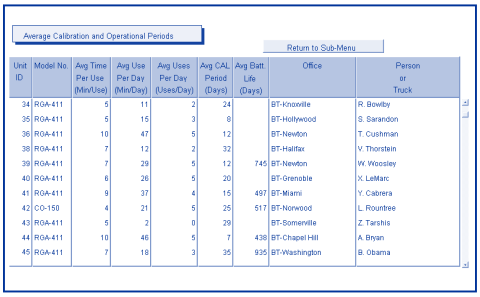
Enjoy,
Elizabeth J. Makrides
Editor-in-Chief

PRODUCT FOCUS
N-CAL DOCKING AND REPORTS

Fourteen years ago, Bascom-Turner introduced an Automatic Docking Calibration (D-CAL) station. Our current **Network Calibration (N-CAL)** system benefits from years of experience and feedback, and allows calibration and management of all lines of Bascom-Turner detectors (**Gas-Sentry®**, **Gas-Ranger™**, **Gas-Explorer™** and **Gas-Rover™**) on a single system integrated within a company's data network.

Besides providing automatic calibration and diagnostic pump and sensor tests, the N-CAL system features over 20 reports covering all aspects of managing a company's inventory of detectors. Reports cover office and user assignments, calibration and operation, and service data. The reports can be viewed using N-CAL software, or automatically emailed to supervisors. Nine of the reports available to N-CAL users are briefly outlined below:

REGULATORY COMPLIANCE REPORTS



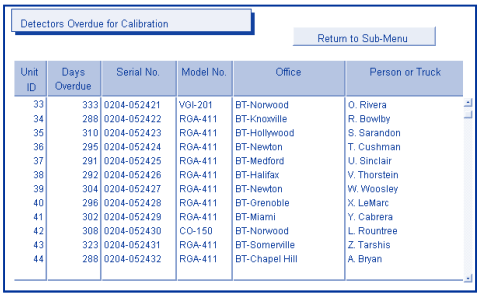
Average Calibration and Operational Periods

Return to Sub-Menu

Unit ID	Model No.	Avg Time Per Use (Min/Use)	Avg Use Per Day (Min/Day)	Avg Uses Per Day (Uses/Day)	Avg CAL Period (Days)	Avg Batt. Life (Days)	Office	Person or Truck
34	RGA-411	5	11	2	24		BT-Knoxville	R. Bowlby
35	RGA-411	5	15	3	8		BT-Hollywood	S. Sarandon
36	RGA-411	10	47	5	12		BT-Newton	T. Cushman
38	RGA-411	7	12	2	32		BT-Halifax	V. Thorstein
39	RGA-411	7	29	5	12	745	BT-Newton	W. Woosley
40	RGA-411	6	26	5	20		BT-Grenoble	X. LeMarc
41	RGA-411	9	37	4	15	497	BT-Miami	Y. Cabrera
42	CO-150	4	21	5	25	517	BT-Norwood	L. Rountree
43	RGA-411	5	2	0	29		BT-Somerville	Z. Tarshis
44	RGA-411	10	46	5	7	438	BT-Chapel Hill	A. Bryan
45	RGA-411	7	18	3	35	935	BT-Washington	B. Obama

Average Time Between Calibrations and Operational Periods

- Tracks average time between calibrations
- Compiles average operational time per use and per day
- Can be generated for a single office or all offices for a user-specified time period (in one month increments)



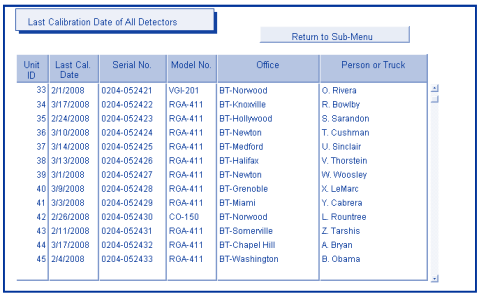
Detectors Overdue for Calibration

Return to Sub-Menu

Unit ID	Days Overdue	Serial No.	Model No.	Office	Person or Truck
33	333	0204-052421	VOI-201	BT-Norwood	O. Rivera
34	288	0204-052422	RGA-411	BT-Knoxville	R. Bowlby
35	310	0204-052423	RGA-411	BT-Hollywood	S. Sarandon
36	295	0204-052424	RGA-411	BT-Newton	T. Cushman
37	291	0204-052425	RGA-411	BT-Medford	U. Sinclair
38	292	0204-052426	RGA-411	BT-Halifax	V. Thorstein
39	304	0204-052427	RGA-411	BT-Newton	W. Woosley
40	296	0204-052428	RGA-411	BT-Grenoble	X. LeMarc
41	302	0204-052429	RGA-411	BT-Miami	Y. Cabrera
42	308	0204-052430	CO-150	BT-Norwood	L. Rountree
43	323	0204-052431	RGA-411	BT-Somerville	Z. Tarshis
44	288	0204-052432	RGA-411	BT-Chapel Hill	A. Bryan

Detectors Overdue for Calibration

- Lists all detectors overdue for calibration, based on pre-set time between calibrations (e.g., 30 days)
- Specifies days overdue and assigned office and person/truck
- Can be generated for a single office or all offices



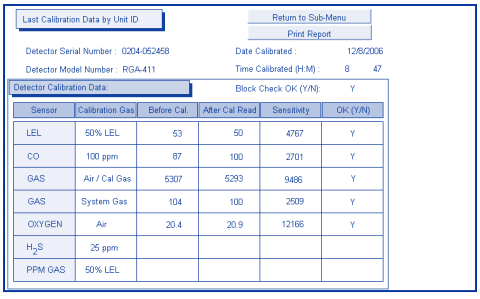
Last Calibration Date of All Detectors

Return to Sub-Menu

Unit ID	Last Cal. Date	Serial No.	Model No.	Office	Person or Truck
33	2/1/2008	0204-052421	VOI-201	BT-Norwood	O. Rivera
34	3/17/2008	0204-052422	RGA-411	BT-Knoxville	R. Bowlby
35	2/24/2008	0204-052423	RGA-411	BT-Hollywood	S. Sarandon
36	3/10/2008	0204-052424	RGA-411	BT-Newton	T. Cushman
37	3/14/2008	0204-052425	RGA-411	BT-Medford	U. Sinclair
38	3/13/2008	0204-052426	RGA-411	BT-Halifax	V. Thorstein
39	3/1/2008	0204-052427	RGA-411	BT-Newton	W. Woosley
40	3/9/2008	0204-052428	RGA-411	BT-Grenoble	X. LeMarc
41	3/3/2008	0204-052429	RGA-411	BT-Miami	Y. Cabrera
42	2/26/2008	0204-052430	CO-150	BT-Norwood	L. Rountree
43	2/11/2008	0204-052431	RGA-411	BT-Somerville	Z. Tarshis
44	3/17/2008	0204-052432	RGA-411	BT-Chapel Hill	A. Bryan
45	2/4/2008	0204-052433	RGA-411	BT-Washington	B. Obama

Last Calibration Date of All Detectors

- Provides date of last calibration for all detectors in use
- Specifies detector serial number, model number and assigned office and person/truck



Last Calibration Data by Unit ID

Return to Sub-Menu

Print Report

Detector Serial Number : 0204-052458

Date Calibrated : 12/8/2006

Detector Model Number : RGA-411

Time Calibrated (H:M) : 8 47

Detector Calibration Data:

Block Check OK (Y/N): Y

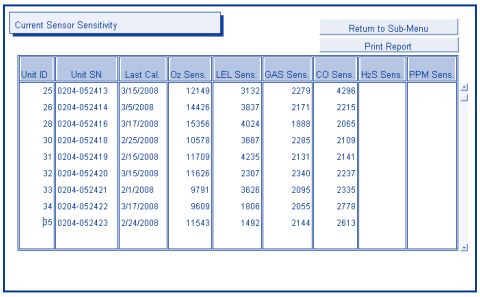
Sensor	Calibration Gas	Before Cal.	After Cal Read	Sensitivity	OK (Y/N)
LEL	50% LEL	53	50	4767	Y
CO	100 ppm	87	100	2701	Y
GAS	Air / Cal Gas	5307	5293	9486	Y
GAS	System Gas	104	100	2509	Y
OXYGEN	Air	20.4	20.9	12166	Y
H_2S	25 ppm				
PPM GAS	50% LEL				

Last Calibration Data by Unit ID

- Gives quick overview of sensor and pump health (OK-Y/N)
- Lists readings before and after calibration, as well as sensitivities for each sensor
- Specifies calibration gases used (e.g., 50% LEL, system gas)

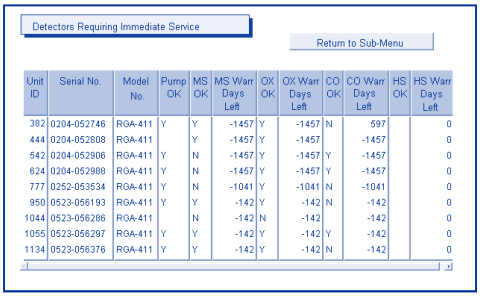
PRODUCT FOCUS
N-CAL DOCKING AND REPORTS

MAINTENANCE AND SERVICE REPORTS



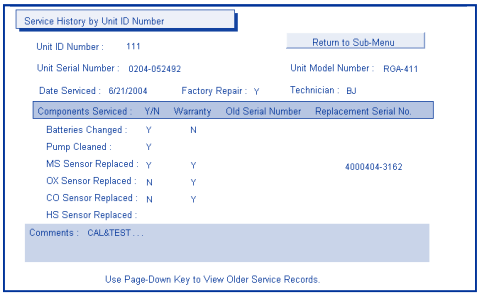
Current Sensor Sensitivity

- Summarizes sensitivities for all applicable sensors (LEL, GAS, CO, O_2, H_2S, PPM) across all detectors
- Also provides date of last calibration for each detector



Detectors Requiring Immediate Service

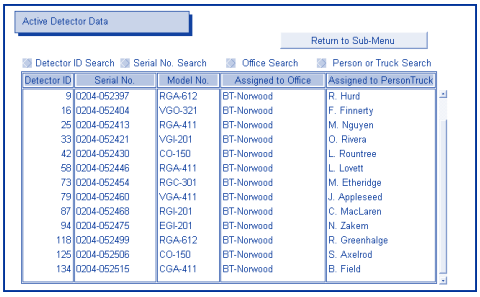
- Shows serial numbers of detectors across all offices requiring service (as determined at most recent calibration)
- Recognizes sensor or pump problems and calculates time left in warranty period



Service History by Unit ID

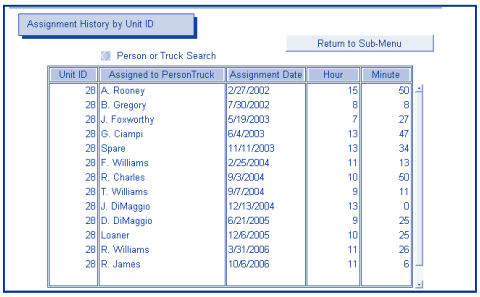
- Shows all repair records for each detector
- Individual repair records include date, technician, summary of work done, including old and replacement sensor serial numbers where applicable, and any comments

INVENTORY AND MANAGEMENT REPORTS



Active Detectors by Office

- Shows all active detectors assigned to a given office
- Tracks serial number, detector model, and person or truck to which the detector is assigned



Assignment History by Unit ID

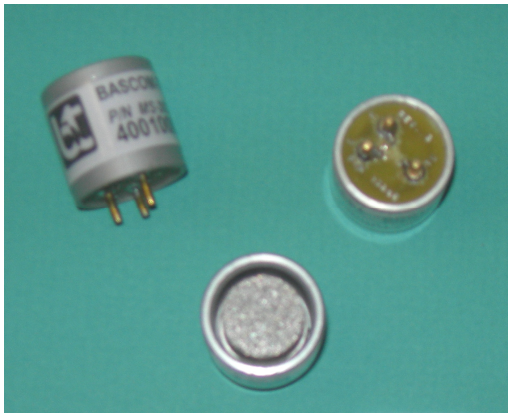
- For a given detector, tracks current assignment (person or truck) as well as all previous assigned users
- Tracks date and time of all assignment changes

N-CAL users can also search records by unit ID, detector serial number, person or truck (i.e., assigned user) or office. **If you would like more information about any of these reports or other functionalities available to N-CAL users, please contact us at 1-800-225-3298.**

SENSOR BOOSTING WITH N-CAL

By George Champey

Catalytic sensors, used widely in the natural gas industry, are robust and easy to install and calibrate. These sensors depend for their performance on the oxidation of combustible vapors and gases on a catalytically active surface. Catalytic activity can be degraded by adsorption of various airborne impurities. Potential catalyst poisons include chlorinated organics, sulfur containing compounds, airborne lead, and compounds of some metalloids, particularly silicon.



Give your sensors a boost. Boosting Bascom-Turner methane sensors significantly improves sensor life, and can be done automatically when calibrating a detector using a Bascom-Turner docking station.

Bascom-Turner methane sensors are not significantly affected by chlorides or sulfides because of their composition and operating temperature. Airborne lead concentrations have been reduced essentially to zero ever since lead compounds were removed from gasoline. What remains as a potential poison is silicon derived from commercial silicones with an appreciable vapor pressure.

Silicon inhibits oxidation of methane on a catalytic sensor. The effect is cumulative, that is, some loss of catalyst activity occurs each time a sensor is exposed to silicones. However, Bascom-Turner has developed a proprietary process which treats a sensor in a detector and restores its activity. The process involves heating in a cleansing gas, commonly referred to as “boost gas,” followed by a short conditioning step to stabilize the sensor at its new, higher activity. Boosting and conditioning take less than three minutes and can be carried out automatically while a detector is being calibrated in a docking station.

Boosting is most effective if done regularly starting when a sensor is first put into service. The optimal frequency for boosting is about twice a month. An example of what can be expected from boosting is offered by sensors deployed in New England and boosted about twice a month. The sensitivity of a sensor can be expressed by

Gain = (Constant)*(Reading) / (Concentration)

where the constant is determined by calibration. Typically, the gain is a number in the low thousands, for example 3885 in one specific case. Over the next 27 months, the gain of this sensor, as determined by calibration, had a low value of 3510, a high value of 4082, and over all declined by less than 5%. To put this in context, sensors with gains in the mid-1500’s are still reliable. It is clear that boosting during docking calibration helped maintain sensors at peak activity and extended their useful life.

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