

W0BLK
BLACK HILLS AMATEUR RADIO CLUB, INC

3288 Sandstone Lane
Rapid City, SD 57701-5388

Call to Order: The BHARC meeting was called to order at 7:00 pm on 20 Feb 2026 by President Ryan Lindblom KE0LXT. The meeting was held in the EE/Physics Building at the South Dakota School of Mines and Technology, room 251A.

The following attended the meeting in-person:

Andy Pattantyus KF0ARA
Jeff Larus KF0TSG
Gary Peterson K0CX
David Dodge KF0TTS
Wyatt Kloos KF0WBL
Jim Larkin KF0TSF
Brent Whitaker (no call sign)
Sidney Reade K0WWH
Steve Maro K2WRM
Jeff Halgerson K0HF
Bob Henriksen KF0AM
David Minnick N9FI
Mike Moore KE0QIB
Terry Fuller AD0HL
Don Jarvinen K0DAJ
Mike Key K0MDK
Marko Kocanda WV9M
Jan Schmidt KF0MOX
Larry Broomfield AC0WT
Ryan Lindblom KE0LXT
Mark Wagner WB0HUY
Larry Brock N0LRB
Chris Stallkamp KI0D
Bill Clayton KF0PRF
Delbert Long KD0AYN
Gary Anderson KF5XW
Arie Lecroix KF0LVF
Betty Rush KA7PJQ
Mike Kempin N0USY
Mike Schaff KD0ZIP
Chris Jaques KD0RAS
Eric Neumann N4QFD

Introductions: Each attendee introduces themselves.

Secretary's Report:

Working on the signature sheet for the Black Hills Federal Credit Union

Sent out minutes for Jan 2026. Need approval.

Mike Key K0MDK moved to accept the Jan 2026 club meeting minutes, and Sidney Reade 2nds. Vote: none opposed, motion approved

Treasurer's Report: Chris Jaques KD0RAS provided the treasurer's report by email:

Current Balances at Black Hills Federal Credit Union:

Regular Share:	\$5.20
High yield Savings:	\$4,095.76
Checking:	\$1847.14
6 Month CD:	\$8,160.58 matures in May 2026 (to be renewed for 12 months)
12 month CD:	\$8,160.59 matures in November 2026
Paypal:	\$82.98

Disbursements since last meeting:

Dues/Donations:

Disbursements:

SDSMT Room Rental \$25

Pending Disbursements:

Need signatures on checks
\$25 Room rental for February
\$83.61 clubhouse electric 11/25/2025 → 12/25/2025

Andy Pattantyus KF0ARA moved to approve the Treasurer's report, and Eric Neumann N4QFD seconded, Vote: none opposed, motion approved

Committee Reports:

Activities Committee: Larry Broomfield AC0WT and Delbert Long KD0AYN

Larry Broomfield AC0WT and Delbert long KD0AYN updated the schedule

Feb 9th through the 13th, school roundup

Feb 20th, Feb club meeting

Feb 21th, Winter Auction, Faith Lutheran, 17 Indiana St.

Delbert summarizes the list of Bob Olsen's equipment presented by Jay Evanson

Mystic will be July 12th

Heart of the Hills July 18th

Public Relations and Recruitment Committee: Don Kendall N1NOX (absent)

No report

Engineering/Technical Committee: Mike Key K0MDK

Getting the WiFi back on line, we need a Ubiquiti passive POE power supply.

Will be running it off Mike Key's home WiFi

Mike Moore reset the time on the Radar Hill repeater. The controller needs repair. There is no courtesy tone right now.

ARES Committee: Ryan Lindblom KE0LXT reports:

No report.

Since the committee reports brought no action, there was no call for approvals.

Summary of Community Service Activities

No community service activities since the January 2026 club meeting

Summary of Education Activities

The program at the BHARC club meeting each month is education.

Ryan wants to do Tech Class at West River Electric. Jeff, Larry Broomfield, and Gary.

Jeff Larus KF0TSG suggested using West River Electric (WRE) for the technician's class. WRE has a beautiful community room. Jeff will provide contact information to WRE. The goal is to get a Technicians class going in February.

Old Business:

New Business:

Chris Jaques KD0RAS updated the website, w0blk.com forwards to w0blk.org

Betty is seeking programs. Have openings starting in May.

New Member Applications:

Jon Lambert and Arie LeCroix are interested.

Announcements:

None

Agenda Items for the next Board meeting:

Website update responsibilities.

Adjourn:

Andy Pattantyus KF0ARA moved to adjourn the meeting and Mike Key K0MDK 2nds.

Vote: none opposed, motion approved

The meeting was adjourned at 7:33 pm.

Andy Pattantyus, KF0ARA

BHARC, President and Acting Secretary

+++++

Program - Andy Pattantyus and Larry Broomfield on Meshtastic

What is Meshtastic?

"Meshtastic is an open-source, decentralized, and off-grid messaging system that uses LoRa radio technology to enable long-range text communication without cellular service or internet. Using inexpensive, low-power radios, it creates a self-healing mesh network, allowing messages to hop between devices to extend range over miles in remote, crowded, or disaster areas."

What is LoRa Radio Technology?

"LoRa (from "long range") is a physical proprietary radio communication technique based on spread spectrum modulation.[2] It is used as the physical layer for LoRaWAN, a low-power, wide-area network (LPWAN) protocol that wirelessly connects battery-operated devices to the Internet."

What is Chirp Spread Spectrum?

"Chirp Spread Spectrum (CSS) is a robust, wideband, low-power modulation technique that uses linear frequency-modulated pulses (chirps) to transmit data, enabling long-range communication for IoT, LoRa, and RTLS applications. By sweeping frequencies, CSS resists interference and noise, allowing signals to be decoded even below the noise floor."

In the USA

In the USA, Meshtastic operates on the 915 MHz ISM band, license free. Direct Messages are encrypted from source to destination. Public key Messages can be "broadcast" on a public channel. The legal limit for TX (unlicensed) is 1 watt, but most mesh radios provide about 100 mW to 160 mW of Tx power.

What is ISM?

"Industrial, Scientific, and Medical (ISM) bands are specific radio frequencies designated by the ITU (International Telecommunication Union) for unlicensed, non-communication use of RF energy, such as for industrial, scientific, or medical equipment. Commonly used for Wi-Fi, Bluetooth, and IoT devices, these bands (e.g., 2.4 GHz, 5 GHz, 915 MHz) allow short-range, low-power communication without a license."

How to get started?

1. Talk to a Meshtastic user, and borrow a radio.
2. Read the <https://meshtastic.org/>
3. Check for firmware support at <https://flasher.meshtastic.org/>
4. Buy a pre-packaged radio, about \$75 www.rokland.com
5. Download the app to your smartphone
6. Upgrade the firmware to version 2.7.15
7. Commit to a permanent stationary node:
8. Recommend the Seeed Studios SenseCAP Solar Node P1-Pro
- 9.

<https://www.seeedstudio.com/SenseCAP-Solar-Node-P1-Pro-for-Meshtastic-LoRa-p-6412.html>

10. Configure your node using the club QR code
11. Send lots of messages?

Status update: What have we accomplished so far?

- BHARC members added over 30 nodes to Rapid City mesh
- Many BHARC members have successfully exchanged messages
- Andy Pattantyus (Red Rock) and Larry Broomfield (Box Elder) 14.5 miles apart have successfully exchanged messages
- Established BHARC private channel on channel 0 and remapped public channel to channel 1. Have a QR code for easy set-up
- Directory of BHARC nodes on Google Drive
- Meshtastic folder on club Google Drive
- Solar Node installed on Radar Hill - W0BLK-RH
- Evaluated cold weather performance of Atlavox Solar Node
- One Watt WisMesh Node boards in hand, BOM under development

Next steps:

- Select mountain top locations for 1W nodes (Future Router)
- Build and commission mountain-top solar nodes
- Coordinate with others, especially the router node owners

Recommendations:

- Seeed Studios SenseCAP Solar Node as permanent outdoor node \$95
- Set hops to 4 hops
- Send messages regularly
- Acknowledge any messages received
- Buy or borrow a node and start "playing"

+++++