

SCBA Evaluation

Summary of Committee Recommendation

The Committee unanimously chose the MSA G1 as the best SCBA for our needs. There will be a slight learning curve to acclimate from the NXG2 packs. However, it is believed that the positives far outweigh the negatives in switching into this pack. First, the warranty is more attractive than what Scott offers. The MSA warranty does not cover normal wear and tear, however, it covers “defects in materials and/or faulty workmanship.”

With the cancer prevention initiative, the straps will be easier to clean/change out if we go with their “serviceable tunnel strap.” These can be cleaned in our extractor, however repeated cleaning would speed up deterioration of the material. MSA does have a cleaning/disinfecting procedure for typical cleaning.

After speaking with a few different SCBA technicians in the area, all were very happy with MSA’s customer service and turn-around for parts (usually within a day or two). With the ease of maintenance on these packs, the Committee believes it will be easier to get and keep our front-line packs in-service.

The adjustable/swivel lumbar assembly will make the packs much more comfortable to more of our members. The mask is more comfortable and at first glance, seems to be easier to achieve a positive fit test on more members. The mask is lighter and has a larger field of view than the current masks we use. MSA does require a breakdown of the pack at 600 hours which has been touted by other technicians as an easy service. Other technicians we spoke to feel the packs will expire before they reach 600 hours.

The Bluetooth feature does not seem to be a reliable communications feature at this time. However, if/when the technology progresses, it will be available in this SCBA.

An optional TIC is available with this SCBA. It is not meant to replace handheld thermal imagers that are available, but meant to be a self-rescue tool. The cost on these has been reduced to \$795.

After speaking with the MSA rep, he believes packs meeting the new NFPA standard for 2018 will start being produced in November of this year.

I. Intro

A) Committee task

- Find the best SCBA for the best value
- Make an SCBA recommendation to replace the current SCBAs for the upcoming budget year

B) Committee members

- Lt. David Ivie, chairman
- Deputy Chief Bruce Kunz
- Captain Shaun Jordan
- Lt. Tommy Green
- D/E Vance Lay
- D/E Eric Haake
- D/E Elliot Howard

C) Seven City Survey

- Arlington –MSA G1
- Carrollton –MSA G1
- Farmers Branch –MSA G1
- Garland –Scott AP75
- Grand Prairie –Scott X3
- Irving –Scott AP75
- Plano –Scott AP75

II. Committee decisions on acceptable manufacturers

A) Avon

-On 1/31/17, the Committee met with Doug Nelle from Avon to show their pack, the Deltair.

-The Committee liked the simplicity of the design and the fact there were not as many “bells and whistles” compared to the other packs. The Committee felt that this was less to go wrong and less to repair.

B) Drager

-On 2/15/17, the Committee met with Paul Tarter from Drager to show their pack, the S7000.

-The Committee originally felt this was a formality and this was a non-player. However, the Committee was impressed with the communications aspect of this pack, enough so to take to field-testing.

C) Interspiro

-On 2/9/19, the Committee met with James Gunter from Interspiro, to show their pack, the “S” series (8th Generation).

-The Committee felt that this pack had too radical of a design compared to what the department members are used to. Due to it being approx 3 lbs heavier than any other pack, and a lack of any departments in the Metroplex using it, the Committee decided it would **not** be taken to field-testing.

D) MSA

- On 1/18/17, the Committee met with Scott Becker from MSA, to show their pack, the G1.
- The Committee was impressed with this pack as, as it has many interesting features (RFI, Bluetooth, optional integrated TIC) and is a direct competitor to SCOTT, which the department has been using.
- The Committee took this pack to field-testing

E) Scott

- On 2/1/17, the Committee met with Bob Knudson, from Scott, to show their pack, the X3.
- The Committee took this pack to field-testing.

III. Committee notes for each pack/manufacturer

A) Avon

- The Deltair SCBA weighs approximately 26 lbs with a 45-minute bottle.
- Uses 6 "C" cell batteries and lasts approximately year (+) depending on use
- The only notable Texas cities using this pack are Amarillo and Van Alstyne
- This pack was field tested from June 16 – Aug 12

1) Back frame and Harness

- Back frame is comfortable. The bottle sits lower to avoid helmet contact without throwing the user off balance.
- The side grab handles have a 1000 lb static load rating

2) Communications

- The voice amp/microphone is located inside the mask with the voice amplifier speaker located in the control module on the right shoulder strap. It does have a noise-cancelling feature to cancel out the breathing sound while on air. At rest, this feature seems to be beneficial, however, when there is an increase in the user's breathing rate, the first part of the spoken sentence is muted.

3) Mask

- The Avon mask has the widest field of view out of all the masks the Committee took to field testing.

4) Warranty

- 15-year warranty covering pneumatics and electronics

5) Overall Impressions

- From a strictly technician standpoint, this pack would fit the needs of the MFD. However, there is a lack of options for this pack. With a 15-year life expectancy on the pack, future upgrades do not seem possible with the

lack of Bluetooth, RFID, and NFC. Further, the integration of the mask to the pack would be a BIG learning curve for our members

B) Drager

- The S7000 weighs approximately 25.6 lbs with a 45-minute bottle
- It uses 5 “AA” batteries that should last approximately 1 year depending on use.
- The only notable cities using this pack are Memphis and San Bernadino
- This pack was field tested from May 7 – June 13

1) Back frame and Harness

- The pack was designed with a pivoting lumbar support and ergonomic harness. The field testers complained about the rubber shoulder straps hindering the donning and doffing of the SCBA.

2) Communications

- The FPS-Com 5000 set-up did not work as hoped. Our field testers consistently had trouble pairing the voice amp and speaker. Further, once paired, there was trouble with keeping the two paired.

3) Mask

- Field testers complained about the rubber netting in the back of the mask

4) Warranty

- Lifetime warranty on the first stage regulator; 15 years on electronics and everything else

5) Overall Impressions

- With communications being deemed a trouble area in most after incident reports, the committee felt this pack could not be recommended for our department due to the pairing issues encountered. Further, the numerous amounts of complaints about the rubber shoulder straps put this pack further out of contention. A few of the field testers also complained about the digital read out on the pressure gauge

C) MSA

- The G1 weighs approximately 28 lbs (depending on options) with a 45-minute bottle
- It can use either a Lithium Ion battery that can be charged approximately 400 times before being replaced or 6 "C" batteries. A full charge on the Lithium Ion battery will last 30-90 days, depending on usage and accessories on the pack (Bluetooth, TIC, gas detector)
- In addition to the cities using this pack in the 7-city survey, other notable cities include: Boston, Addison, Euless, Bedford, and Coppel
- This pack was field tested from March 10- April 19

1) Back frame and Harness

- The adjustable lumbar support can accommodate a variety of different sized individuals.
- Battery change out is easier done with waist buckle "key"
- The grab handles on either side will support 500 lbs left or right or 1000 lbs vertical
- The optional removable shoulder straps facilitate easier cleaning

2) Communications

- The voice amp on the left shoulder strap is clear when the user talks in a normal voice. An issue did arise when talking on the radio. If the user keeps the lapel mic on his/her right side, the transmission comes across as "muffled." However, this can be corrected by hanging the lapel mic from the left hook of the coat, next to the voice amp.

3) Mask

- There are no electronics in the mask, they are all on the regulator.
- Masks come in S, M, L to be fitted with S, M, L nose cups for added fit
- Multiple field testers remarked how comfortable to mask was the first time it was donned

4) Warranty

- 15-year warranty + electronics
- Lithium Ion batteries have a 1-year warranty
- Optional integrated thermal imaging camera (TIC) has a 5-year warranty + 10 extra years can be provided at an additional cost

5) Overall Impressions

- The Committee felt this pack would serve the needs of our department. With a 15-year life expectancy, future upgrades are possible with the Bluetooth, RFID, and NFC compatibilities standard on every pack. Further, from a technician standpoint, the packs are "modular" and much easier to work on compared to our current SCBA. The G1 is similar enough to our current SCBA that the learning curve would be minimal.

D) Scott

- The X3 weighs approximately 28 lbs with a 45-minute bottle
- It uses 6 “AAA” batteries
- Vertical “grab handle” with no weight rating
- Notable cities using this pack are Austin, San Antonio, and Ft. Worth
- This pack was field tested from August 13 – September 30

1) Back frame and Harness

- Articulating shoulder strap connection point
- Difficult to remove straps from the back frame for maintenance and cleaning

2) Communications

- Epic 3 voice amp connects directly to the mask. While it is more streamlined and less-bulky than our current model, it still lacks some voice clarity and the problem of the amplifier falling off still remains an issue
- The optional Epic 3 RDI Bluetooth feature had issues connecting to our Motorola radios.

3) Mask

- Same as our current model

4) Warranty

- 10-year on electronics
- 10-year on hardware and “soft goods”
- 15-year on pressure reducer

5) Overall Impressions

- This pack will serve the needs of our department. There would be a minimal learning curve with this pack. However, with a 15-year life expectancy, the 10-year warranty on hardware and electronics causes concern. The electronics enclosure has been “epoxied” to help protect against heat, moisture, and vibration. After 10 years, the expected cost for replacement of the electronic enclosure is approximately \$2,000.
- From a technician standpoint, some of the issues with our current packs will remain issues due to the same construction (i.e. reducer and regulator O-rings).
- Scott has added an optional mask mounted TIC that is cumbersome, difficult to operate, and adds weight to an already heavy mask.

IV. Factors to keep in mind if a pack other than Scott is chosen

A) Masks

-Approx \$250 -\$300 x 210 or so

B) OHD testing regulator (mask testing)

-Approx \$100

C) Posi-check testing software (SCBA testing)

-UNK

D) Truck regulators

-UNK

E) Fill station adapters (Compressor & LA7)

-negligible