

**TECHNICAL ADVISORY COMMITTEE
TO TEXNET AND BUREAU OF ECONOMIC GEOLOGY**

Meeting Minutes

Tuesday, December 3, 2024 – 9:30 a.m. to 11:30 a.m.

OPENING

The meeting of the TexNet Technical Advisory Committee was called to order at ~ 9:30 a.m. on Tuesday, December 3, 2024.

PRESENT

Alexandros Savvaidis, Manager of TexNet
Brian Stump, Committee Chair
Mark Boyd, Committee Member
Jeff Nunn, Committee Member
Chris Hillman, Committee Member
Aaron Velasco, Committee Member
Dave Cannon, Committee Member (via Zoom)
Mark Shuster, Interim Director, Bureau of Economic Geology
Elizaveta Rybina, TexNet Admin Program Coordinator

ABSENT

Kris Nygaard, Committee Member
Scott Mitchell, Committee Member
Larry French, Committee Member
Ken Wisian, Associate Director, Bureau of Economic Geology

AGENDA FOR DECEMBER 3rd, 2024 MEETING

1. Approval of Minutes of the June 25, 2024 and October 7, 2024 meetings (5 min)
2. Update on the Hiring Plan (10 min)
3. Update on releasing M1.5+ auto-picked events (15 min)
4. Operations (e.g. status/maintenance, resources) (10 min)
5. Seismicity pattern (10 min)
6. Budget split (e.g., equipment, maintenance, computer hardware, staff) (15 min)
7. Biennial Report (45 min)
8. Suggestions for the subsequent meetings (10 min)

APPROVAL OF JUNE 25th, 2024 and OCTOBER 7th, 2024 MEETING MINUTES

The Committee reviewed and approved the June 25th, 2024 and October 7th, 2024 Meeting Minutes.

HIRING UPDATE

Alexandros Savvaidis informed the TAC that the last hire for the operations team to be completed after the Christmas break with Andres Gomez joining the team. Dino Huang was promoted to coordinate the earthquake analysis team and will spend a portion of his time on the operations.

UPDATE ON RELEASING M1.5+ AUTO-PICKED EVENTS

Alexandros Savvaidis provided an update on seismicity reporting and seismic stations (2024 Q4):

- Four stations funded by the industry are deployed from TexNet (FOAK; Eagle Ford).
- Deployment of two new stations from operators at the border with New Mexico with data provided to TexNet (NGL01, NGL02).

The current priority for TexNet is to update the catalog. Alexandros Savvaidis discussed seismicity reporting, stating that TexNet computes and publicly releases auto picked M1 and above events for the Midland Basin. TexNet continues to review the backlog for the Delaware Basin for M2 and above events while currently publishing automatic event locations for M1.5 and above, with human analysis of events completed on the next business day. For the Eagle Ford area the automated events with M1.5 are published as well. The human review of the backlog of automated events in this area is complete through January 2024.

SEISMICITY PATTERN IN 2024

Alexandros Savvaidis updated the TAC on the increase in seismicity observed in the Eagle Ford, Midland Basin, and DFW (Venus) areas and drop of seismicity in the North Delaware Basin. He also discussed seismicity in the North Tarzan area, mentioning that it is better controlled since July 2024.

IMPROVING DEPTH ESTIMATE AND VALIDATION

Alexandros noted that the TexNet research group has been working on updating velocity models for the Midland Basin, and that they had conducted many location tests with different models. The research updates and findings will be presented at the Annual Review Meeting on December 4, 2025.

SEISMIC EQUIPMENT REPLACEMENT AND BUDGET

Alexandros Savvaidis and TexNet TAC discussed the budget for the upcoming year, which includes a significant increase due to the addition of more people and the need for new IT hardware and replacement field systems. Given the fact that the seismic equipment is aging, Alexandros proposed a plan to purchase 60 field systems, with 30 being replacements for aging equipment and 30 for network expansion. He also mentioned the need to develop a longer-term plan for instrument replacement and data storage needs.

SEISMIC MONITORING SYSTEM IMPROVEMENTS

Alexandros discussed the challenges and improvements needed for the network's seismic monitoring system. He noted that the system's storage capacity has increased 16 times since 2016. TexNet still does not meet the USGS standards of 99% uptime for individual stations which is attributed to the aging equipment and outages of the telecommunication systems. Alexandros mentioned the plans to improve the system's infrastructure while expanding event reporting to smaller magnitude events as critical needs. He discussed the potential acquisition of additional funding to support these system improvements in order to meet reporting goals. The TAC noted the critical need of new equipment for seismicity monitoring as well as the testing of satellite communication systems like Starlink to improve uptime.

TIMELY EARTHQUAKE REPORTING AND DATA

Alexandros Savvaidis discussed the importance of timely earthquakes reporting, where the funding would allow for a reduction in the minimum reporting level from M2.5 to M 1.5. He emphasized the need for ground motion data and catalogs. Alexandros also highlighted the importance of having an updated network to capture all earthquake

events. During the discussion it was suggested to include a map of seismicity in Texas, specifically a county map with earthquake data and magnitude scales.

FINALIZING EXECUTIVE SUMMARY AND BUDGET PLANNING

TexNet TAC discussed the Executive Summary for seismic activity in Texas and budget for the upcoming year, which is expected to increase due to the need of seismic station equipment and the need for new IT hardware.

SUGGESTIONS FOR THE SUBSEQUENT MEETING Q1-2025

1. Update on hiring plan
2. Velocity models
3. Operations (e.g. status/maintenance, resources)
4. Research update
5. Earthquake hazard plan
6. Budget update
7. Publications and presentations update
8. Suggestions for the subsequent meetings

ADJOURNMENT

Meeting was adjourned at ~ 11:30 a.m. by Brian Stump, Committee Chair

Minutes submitted by: Elizaveta Rybina, TexNet

Minutes reviewed by: Alexandros Savvaidis, TexNet

Minutes approved on March 24, 2025, by:

Brian Stump, Committee Chair

Larry French, Committee Member

Chris Hillman, Committee Member

Jeff Nunn, Committee Member

Dave Cannon, Committee Member (via Zoom)

Scott Mitchell, Committee Member (via Zoom)