



Mark Gordon  
Governor

# WYOMING *Aeronautics Commission*

DEPARTMENT OF TRANSPORTATION

Sigsbee Duck, Chairman

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## MEETING MINUTES

A workshop for the Wyoming Department of Transportation (WYDOT) Aeronautics Commission was held via Zoom on December 13, 2022. The workshop began at 10:30 a.m.

***The following commission members were present, constituting a quorum.***

Anja Bendel, Commissioner, District 1	Randy Harrop, Commissioner, District At-large
Jerry Blann, Commissioner, District 2	Sigsbee Duck, Chairman, District At-large
Bruce McCormack, Vice-chairman, District 4	Luke Reiner, Ex Officio, WYDOT Director
Steve Maier, Commissioner, District 5	

Commissioner Bill DeVore was absent.

***The following WYDOT staff were present and participated in the workshop.***

Brian Olsen, Aeronautics Administrator	Taylor Rossetti, Support Services Administrator
Phillip Hearn, Engineering & Construction Manager	Kimberly Chapman, Commission Secretary
Cheryl Bean, Planning & Programming Manager	

Other attendees included: Dennis Byrne, Chief Financial Officer, WYDOT; Nathan Smolinski, Chief Technology Officer, WYDOT; Dr. Eugene Holubnyak, Director of the Hydrogen Energy Research Center, University of Wyoming; Mike Kahler, Senior Assistant Attorney General; MacKenzie Sewell, Assistant Attorney General; Sheri Taylor, UAS Program Manager, WYDOT; Cheryl Porter, Grants and Programming Specialist, WYDOT; A.J. Schutzman, Senior Planner, WYDOT; Greg Hampshire, Aeronautics Analyst, WYDOT; Tim Dolan, Airport Engineer, WYDOT; and Melissa Palka, Project Engineer, WYDOT.

**Hydrogen Presentation**

The first presentation to the commission was from Commissioner Anja Bendel and Dr. Eugene Holubnyak on Wyoming’s energy strategy. Ms. Bendel is a program director for the Wyoming Energy Authority (WEA), which was created by the legislature in 2020 to administer the state’s energy program. The mission of the Wyoming Energy Authority is to support and promote the state’s energy sector through a combination of strategic thinking and action, economic development, and advocacy.

The WEA is not only concerned with the many types/forms of energy present in the state (e.g. coal, electricity, oil, natural gas, and uranium), but also the value chain of each energy source. Energy transition, non-energy extractives, and industry best practices also fall under the WEA’s purview.

Two macro-trends are leading the discussion around the future of energy: one) the increasing demand for low-emissions energy; and two) the electrification of combustion processes.

The WEA embraces and supports all forms of energy development in order reduce vulnerability and diversify the state’s economy. Some initiatives and areas of focus include rare earth elements and critical minerals, sequestration (CO<sub>2</sub> storage), advanced nuclear, and hydrogen.

Ms. Bendel focused on hydrogen and its potential use as a fuel source. There are currently two primary methods to produce hydrogen: electrolysis and natural gas steam methane reforming. Both of these methods currently produce low carbon intensity hydrogen, but consume water in the production process.

The two different methods for storing hydrogen have its strengths and challenges. When hydrogen is stored in gaseous form, it needs to be contained in expensive, high-pressure vessels. There is also less energy density with this method of storage. Hydrogen can be stored as a liquid, which allows for greater molecular density and more potential energy, but it must be kept at extremely low temperatures. Another challenge is that since hydrogen is one of the smallest molecules, containing it is very difficult. One idea that might address this challenge is to store hydrogen in liquid organic hydrogen carriers, like ammonia.

Hydrogen can be transported via truck, train, or pipelines (pure, blended with natural gas, or ammonia).

There are many different applications for hydrogen including vehicles, synthetic fuels, fertilizer, batteries, and others. While hydrogen could be used in various ways, switching from a more traditional fuel sources be cost prohibitive.

Ms. Bendel listed several reasons hydrogen should be a major component of Wyoming's energy strategy. Wyoming has the greatest abundance of natural feedstock for hydrogen production. Wyoming has a lot of the necessary production and export infrastructure already in place. The state also has favorable laws and policies to make expanded hydrogen production a reality. There are also many public and private sector groups working on the hydrogen opportunity in Wyoming.

One of the projects that Ms. Bendel is working on is a regional hydrogen hub, which seeks to create networks of producers, consumers, and local connective infrastructure. Wyoming is a founding member of the Western Interstate Hydrogen Hub. Three other states (Colorado, Utah, and New Mexico) and eight private partners will work together to produce and distribute hydrogen fuel. To support this work, the Hub is requesting a \$1,000,000,000 grant from the U.S. Department of Energy.

Dr. Holubnyak presented a comprehensive briefing on Wyoming's ability to take advantage of the hydrogen opportunity. He shared that conditions are very favorable for increasing hydrogen production. Currently, there is a production tax credit for clean hydrogen and carbon storage. These tax credits could help states build up infrastructure for hydrogen production. Some policy considerations (zero emission vehicle mandates, clean energy standards in neighboring states, and natural gas bans) also support a transition to hydrogen.

Dr. Holubnyak stated that Wyoming is able to produce low carbon intensity hydrogen, which is remarkable considering the amount of energy production in the state. He also provided more information on the two methods of producing hydrogen: electrolysis and steam methane reforming with carbon capture.

With its existing pipeline infrastructure for CO<sub>2</sub>, Wyoming is advantageously positioned to produce and deploy hydrogen to markets across the western half of the U.S. The necessary right-of-ways are in place and will facilitate installation of hydrogen pipelines.

Dr. Holubnyak provided a comparative analysis of different hydrogen storage techniques including liquid organic carriers, metal organic frameworks, gaseous hydrogen, liquid hydrogen and reformed liquid fuels (ammonia, methanol, and ethanol). He also compared the costs and safety considerations of transporting hydrogen fuel by rail, trucks, and pipeline.

Dr. Holubnyak discussed the advantages and disadvantages of hydrogen-powered fuel cell vehicles (FCVs). FCVs offer a long operating range, lower battery weight, shorter refueling time, and lower emissions than other electric vehicles. Hydrogen powered vehicles are suitable for heavier transport like buses, shipping trucks, and aircraft. A major disadvantage is the lack of operational infrastructure and the need for pressurized tanks. Compressed hydrogen is heavier than traditional diesel or gasoline-powered vehicles, but it is lighter than electric vehicles.

Dr. Holubnyak also discussed the work currently taking place at the Hydrogen Energy Research Center at UW. He and his colleagues are researching the potential to create H<sub>2</sub> from Wyoming's natural resources, investigating novel transportation approaches, evaluating options to use produced water, and conducting techno-economic and market assessments.

The meeting broke for lunch at 12:20 p.m. The meeting reconvened at 1:03 p.m.

### **WYDOT HR Update**

As the Support Services Administrator, Mr. Rossetti oversees several areas of WYDOT: Motor Vehicle Services, Office Services, Safety and Training Services, and he is the agency liaison to the state Human Resources Division (HRD).

Mr. Rossetti provided an overview of the compensation adjustment that was approved during the 2022 legislative session and implemented on July 1, 2022. He gave a general explanation of how pay is determined for WYDOT employees. Pay tables and pay rates are established by HRD and then typically adopted through the legislative process. (Pay rates are analyzed and adjusted every year, but not necessarily adopted.) HRD evaluates positions based on the tasks performed and then classifies/assigns to a salary group them accordingly.

At the start of the last legislative session, WYDOT was still operating under 2017 pay tables. The first step of Phase I of the employee compensation plan was to update the pay tables to market rates. The next step was to increase employee wages to the minimum pay levels for each position (if necessary). The market merit matrix was then applied to each employee who had a previous performance evaluation in the system. Since the matrix was based on an employee's performance, higher performing employees earned a better raise.

Mr. Rossetti speculated that Phase II, which will be discussed in the legislature during the 2023 general session, will include pay table adjustments and another update to the market merit matrix (depending on legislature-allocated funding levels). The governor is presently expected to send a letter to the Joint Appropriations Committee outlining requests for Phase II. More details will be shared with the commission as the department receives them.

Mr. Rossetti reported that the average adjustment to WYDOT employee salaries was about 8.19 percent. While this was a good adjustment, pay increases in the last decade have not kept pace with inflation or the increased cost-of-living. For example, an employee who has been with the department since 2014 would have received a 16 percent salary increase from adjustments in 2015, 2019, and 2022. However, during this same time period inflation has risen to 25 to 28 percent, meaning that pay adjustments lag 4 to 12 percent behind.

Following a question from Commissioner Blann, Mr. Rossetti shared that the state provides training on the performance management instrument. WYDOT provides additional training for supervisors with performance review responsibilities.

Following a question from Vice Chairman McCormack, Mr. Rossetti reported WYDOT's turnover rate is generally 1 to 2 percent lower than the state average. Turnover and vacancy rates have increased for law enforcement and snow plow drivers, but that is commensurate with regional and national trends. WYDOT was able to secure an additional pay adjustment for those two groups and it went into effect in November.

### **Aeronautics Division “Year in Review”**

#### *Airport Improvement Program (AIP) Annual Report*

Ms. Bean reported that the AIP administered \$71.1 million in airport improvement grants in 2022. Seventy-nine percent of that total came from federal funds (including non-budgeted funds) and the remaining 21 percent came from state and local sources. Wyoming received about \$15 million in entitlement funds, about \$3.5 million in state apportionment funds, and \$26 million in discretionary funds in 2022. Most discretionary funds go to commercial service airports for major projects. Wyoming also received remnants of COVID-19 recovery/stimulus funding. Ms. Bean also reported that the state received \$2 million in Infrastructure Investment and Jobs Act (IIJA) funds.

Most funding went to airport improvement projects, but the AIP also funded crack seal, pavement management, NAVAID maintenance, marketing and promotions, aviation encouragement, AWOS, and windsock projects. Ms. Bean reported that her team was able to recover around \$700,000 from the previous biennium's projects.

Ms. Bean also provided a breakdown of the different state and federal funds used in the FY 2022 budget.

The AIP biennium budget for 2023-2024 is similar to previous years. The total state budget for the biennium is \$18,018,013. Ninety-five percent of the funds are budgeted for Wyoming Aviation Capital Improvement Program (WACIP) projects and programs. The remainder of the budget will be spent on overhead and staff services, the BlackCat Aviation Database, and the pavement management program.

The federal biennium budget totals roughly \$45 million and that includes entitlement, state apportionment, and discretionary funds. Wyoming will also receive about \$11.7 million annually of IIJA funds for the next four years. Ms. Bean and Mr. Hearn have planned an additional \$636,000 in matching funds for IIJA grants. They have also increased the regular reserve to \$500,000.

*Engineering and Construction Report*

Mr. Hearn updated the commission on end-of-year construction trends. He reported that the division has seen significant savings through the use of the group pavement maintenance program. The division spent about \$3.3 million on the seal coat and crack seal programs, but the estimated savings were around \$1.5 million since the projects were bid together instead of individually.

Mr. Hearn reported on the cost trends of materials used by the division. Since 2004, the average annual inflation for asphalt pavement is 7.5 percent and 14.4 percent for bituminous material. Concrete pavement costs actually reflect an annual inflation rate of -3.3 percent. Mr. Hearn thinks that this is due to improvements in concrete technology, but also the size of recent projects has allowed Wyoming airports to benefit from economies of scale.

In 2022, the division funded 42 projects (construction, equipment, design, and planning) and 45 grants (NAVAID, marketing, and aviation encouragement). These numbers do not include projects that were funded in the previous fiscal year but continued into this construction season.

Mr. Hearn also reviewed upcoming major projects for the next construction season. These included the rehabilitation of runway 8/26 at the Natrona County International Airport, a rehabilitation and reconstruction of several portions of taxiways at the Central Wyoming Regional Airport, and the rehabilitation of runway 11/29 at the Converse County Airport.

The workshop concluded and adjourned at 2:14 p.m.