

WPR22FA151

AIRPORTS

Specialist's Factual Report - Attachment 2
FAA Aeronautical Study 2016-ANM-1617-OE
November 6, 2023



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-ANM-1617-OE
Prior Study No.
2016-ANM-878-OE

Issued Date: 02/02/2017

William Schow
Gem State Processing LLC
951 Highway 30
Heyburn, ID 83336

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Agglomerate Exhaust Stack
Location:	Heyburn, ID
Latitude:	42-33-05.92N NAD 83
Longitude:	113-45-34.15W
Heights:	4156 feet site elevation (SE) 100 feet above ground level (AGL) 4256 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, paint/red lights - Chapters 3(Marked),4,5(Red),&12.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- ☒ At least 10 days prior to start of construction (7460-2, Part 1)
☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/02/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 04, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on March 14, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Robert van Haastert, at (907) 271-5863. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-ANM-1617-OE.

Signature Control No: 294484435-321199198

(DNH)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-ANM-1617-OE

Narrative for ASNs 2016-ANM-1611 through 1617-OE

Abbreviations

AGL - above ground level	MSL - above mean sea level	RWY - runway
VFR - visual flight rules	IFR - instrument flight rules	nm - nautical mile
LDA - Landing Distance Available	ASDA - Accelerate-stop Distance Available	
TORA - Takeoff Run Available	TODA - Takeoff Distance Available	

Part 77 - Title 14 CFR Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

This Gem State Processing, LLC project would be located at the distances and heights below east of RWY 20 threshold at Burley Municipal (BYI) Airport, ID. The BYI elevation is 4154 MSL.

Aeronautical Study	AGL / MSL	Local ID	Distance to RWY 20 threshold
2016-ANM-1611-OE	100 / 4256	Drum Dryer Exhaust Stack 1	2,053 feet
2016-ANM-1612-OE	100 / 4256	Drum Dryer Exhaust Stack 5	2,113 feet
2016-ANM-1613-OE	100 / 4256	Drum Dryer Exhaust Stack 4	2,099 feet
2016-ANM-1614-OE	100 / 4256	Drum Dryer Exhaust Stack 3	2,083 feet
2016-ANM-1615-OE	100 / 4256	Drum Dryer Exhaust Stack 2	2,066 feet
2016-ANM-1616-OE	100 / 4256	Drum Dryer Exhaust Stack 6	2,129 feet
2016-ANM-1617-OE	100 / 4256	Agglomerate Exhaust Stack	2,341 feet

The project was originally submitted at 120 AGL and has been revised to the lower 100 AGL heights.

2. OBSTRUCTION STANDARDS EXCEEDED

a. Section 77.17(a)(3) -- A structure that causes less than the required obstacle clearance within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area resulting in increases to an IFR terminal minimum altitude. These structures will penetrate the 40:1 departure surface in the RWY 02 initial climb areas (ICA) by the values below.

Aeronautical Study	Exceeds by
2016-ANM-1611-OE	64 feet
2016-ANM-1612-OE	63 feet
2016-ANM-1613-OE	63 feet
2016-ANM-1614-OE	63 feet
2016-ANM-1615-OE	64 feet
2016-ANM-1616-OE	62 feet
2016-ANM-1617-OE	57 feet

b. Section 77.19(d) -- The approach surface area designated to protect aircraft during the final approach phase of flight at an airport. These structures would exceed BYI RWY 20 approach surface area by the values below:

Aeronautical Study	Exceeds by
2016-ANM-1611-OE	61 feet
2016-ANM-1612-OE	59 feet
2016-ANM-1613-OE	60 feet
2016-ANM-1614-OE	60 feet

2016-ANM-1615-OE	61 feet
2016-ANM-1616-OE	59 feet
2016-ANM-1617-OE	53 feet

This structure would exceed the VFR traffic pattern airspace by the values below at BYI as defined in FAA JO 7400.2K, 6-3-8, Evaluating Effect on VFR Operations.

Aeronautical Study	Exceeds by
2016-ANM-1611-OE	22 feet
2016-ANM-1612-OE	19 feet
2016-ANM-1613-OE	20 feet
2016-ANM-1614-OE	20 feet
2016-ANM-1615-OE	21 feet
2016-ANM-1616-OE	18 feet
2016-ANM-1617-OE	8 feet

3. EFFECT ON AERONAUTICAL OPERATIONS

a. The impact on arrival, departure, and en route procedures for aircraft operating under VFR follows: The RWY 20 Visual Approach System Indicator (VASI) Obstruction Clearance Surface (OCS) is adversely impacted. These structures have been identified by the FAA Technical Operations Division, Operations Engineering Support Center, which penetrate the BYI RWY 20 VASI OCS by the following:

Aeronautical Study	Exceeds by
2016-ANM-1611-OE	51 feet
2016-ANM-1612-OE	51 feet
2016-ANM-1613-OE	51 feet
2016-ANM-1614-OE	51 feet
2016-ANM-1615-OE	51 feet
2016-ANM-1616-OE	51 feet
2016-ANM-1617-OE	51 feet

The VASI system is a system of lights on the side of an airport runway threshold that provides visual descent guidance information during the approach to a runway. These lights may be visible from up to five miles during the day and up to 20 miles or more at night. Basic VASI consist of two sets of lights. One set marks the start of the runway, while the other is set up some seven meters (twenty feet) behind the first. Each set of lights is designed so that the lights appear as either white or red, depending on the angle at which the lights are viewed. When the pilot is approaching the lights at the proper angle, meaning the pilot is on the glide slope, the first set of lights appears white and the second set appears red. When both sets appear white, the pilot is flying too high, and when both appear red he is flying too low. Penetration of the RWY 20 VASI OCS is hazardous to aviation and the RWY 20 VASI system has been placed out-of-service.

Additional FAA Findings:

There are no physical or electromagnetic effects on the operation of air navigation and communications facilities. There are no effects on any airspace and routes used by the military.

The BYI VFR traffic pattern airspace is penetrated in the approach surface by the following values:

Aeronautical Study	Exceeds by
2016-ANM-1611-OE	22 feet
2016-ANM-1612-OE	19 feet

2016-ANM-1613-OE	20 feet
2016-ANM-1614-OE	20 feet
2016-ANM-1615-OE	21 feet
2016-ANM-1616-OE	18 feet
2016-ANM-1617-OE	8 feet

Furthermore, 2016-ANM-1617-OE, the Agglomerate Exhaust Stack proposal penetrates the 20:1 obstruction clearance slope to the only straight in approach procedure and if not equipped with obstruction lighting, will result in night straight in and circling approaches being not authorized. It will also cause steeper approaches for day visual air traffic.

The BYI Airport Master Record can be viewed/downloaded at <http://www.gcr1.com/5010web/airport.cfm?Site=BYI>. It states there are 75 single-engine and four (4) multi-engine aircraft based there with 27,750 operations for the 12 months ending 24 June 2014 (latest information).

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR follows:

These structures will penetrate the 40:1 departure surface in the RWY 20 initial climb areas (ICA) by the values below.

Aeronautical Study	Exceeds by
2016-ANM-1611-OE	64 feet
2016-ANM-1612-OE	63 feet
2016-ANM-1613-OE	63 feet
2016-ANM-1614-OE	63 feet
2016-ANM-1615-OE	64 feet
2016-ANM-1616-OE	62 feet
2016-ANM-1617-OE	57 feet

Structures will require a new TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES, Note to be added the BYI departure procedures.

c. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures follows:

These structures penetrate the VASI OCS and have forced the airport to take the RWY 20 VASI out-of-service.

4. CIRCULATION AND COMMENTS RECEIVED

This proposal was not circularized for public comment due to the results of an internal FAA evaluation. This does not affect the public's right to petition for review determinations regarding structures, which exceed the subject obstruction standards.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

It is determined that the proposed structures would have a substantial adverse effect on the safe and efficient use of navigable airspace by aircraft at the current airport location. However, planning is currently underway to identify sites for a potential airport relocation. The airport relocation planning may or may not be successful in moving the airport.

6. BASIS FOR DECISION

2016-ANM-1617-OE, the agglomerate exhaust stack proposal penetrates the 20:1 obstruction clearance slope to the only straight in approach procedure and will result in night straight in and circling approaches being not authorized. It will also cause steeper approaches for day visual air traffic.

FAA Flight Standards Division identified penetrations of the visual traffic pattern protected airspace are considered by the FAA to be hazards to air navigation. Flight Standards also stated that to increase the height of these stacks beyond what is current would constitute a hazard to navigation during a critical phase of flight during landing.

FAA Airport Division identified the following additional BYI airport design standards deficiencies:

- a. Runway Safety Areas for RWY 2, 6, and 20 due to boundary fence, railroad track, highway, and river;
- b. Runway Object Free Areas for RWY 2, 6, 20, and 24 due to boundary fence, railroad track, highway, and buildings;
- c. Runway Protection Zones for RWY 2, 6 due to railroad track and highway;
- d. Separation distance between Runway 2/20 and partial parallel taxiway;
- e. Significant penetrations of departure surfaces for TWY 2, 6, 20, and 24 departures; and
- f. Both runways are approximately 1,500 feet shorter than the minimum recommended runway length.

The Airport Division, Helena Airports District Office, is conducting a site selection study for a new airport location due to the existing BYI airport design standards deficiencies, existing penetrations of departure surfaces, and incompatible land uses within the runway protection zones which adversely impact the current airport. Increases in structure heights at the Gem State Processing facility will further adversely impact the current airport as identified above.

The FAA will have to ensure aviation safety and provide standard safety areas, object free areas, runway protection zones, and departure surfaces. This will be accomplished by reducing available length of both runways, which are already much shorter than recommended for this airport. As a short term safety measure, the City of Burley has submitted two FAA 7480-1, Notice of Landing Area Proposal, forms declaring their intention to implement revised declared distances for both runways, which will reduce useable runway length. These 7480-1 forms have initiated aeronautical studies 2017-ANM-232-NRA for RWY 02/20 and 2017-ANM-233-NRA for RWY 06/24. The proposed declared distances are:

Runway	LDA	ASDA	TORA	TODA
RWY 2	3,060 feet	3,630 feet	2,741feet	2,741 feet
RWY 6	3,160 feet	3,786 feet	3,786 feet	3,786 feet
RWY 20	3,442 feet	3,740 feet	3,065 feet	3,065 feet
RWY 24	3,486 feet	3,486 feet	3,032 feet	3,032 feet

The FAA acknowledges that these structures will be constructed to meet EPA standards and that the city and airport management have formally, via the submitted 7480-1s, announced their support to keep the Gem State Processing facility as a viable employer. Thus, the FAA has initiated actions to make the aeronautical operations at BYI safe until the current airport is abandoned and the new airport is constructed.

7. CONDITIONS

All structures shall be marked and lighted as outlined in chapters 4, 5(Red), and 12, of Advisory Circular AC 70/7460-1L. The advisory circular is available online at http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_70_7460-1L_.pdf.

The proponent is required to notify the FAA ten days prior to construction to initiate adding the required changes to the Take-off Minimums and (Obstacle) Departure Procedures. This can be accomplished by filing a Supplemental Notice (7460-2 Form), Part 1, on-line at <https://oeaaa.faa.gov/oeaaa>. Detailed instructions are available under the Instructions link.

Within five days after the structure reaches its greatest height, proponent is required to file a FAA form 7460-2, Actual Construction notification, at the OE/AAA website (<https://oeaaa.faa.gov/oeaaa>). This Actual Construction notification will be the source document detailing the site location, site elevation, structure height, and date structure was built for the FAA to map the structure on aeronautical charts and update the national obstruction database.

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