



## Legislative Fiscal Bureau

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Joint Committee on Finance

Paper #478

### **Sand Mine Monitoring (DNR -- Environmental Quality)**

[LFB 2013-15 Budget Summary: Page 346, #3]

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#### **CURRENT LAW**

All nonmetallic mines, including industrial sand mining operations, often referred to as "frac sand" mines, are required to obtain environmental permits from DNR. Examples of required permits are for air construction, air operation, storm water, high-capacity well, and wetlands. Permit fees are paid into program revenue appropriations that support staff for the various programs.

#### **GOVERNOR**

Convert \$223,400 and 2.0 positions annually from FED to environmental management account SEG for the Bureau of Air Management to perform permitting, monitoring, and compliance related to sand mining operations.

#### **DISCUSSION POINTS**

1. There has been a rapid growth in industrial sand mining operations in the state in the last three years. Industrial sand mines extract a type of sand known as "frac sand" and are commonly referred to as frac sand mines. Frac sand is exported from Wisconsin to other parts of the country where the energy industry uses it in a technique called hydraulic fracturing, or "hydrofracking" to extract natural gas and crude oil from rock formations. High quality frac sand is found in many parts of Wisconsin, especially the northwest and west central areas of the state, and is considered highly desirable by the hydrofracking industry because of its hardness and uniform round shape. This type of industrial sand can also be used for certain foundry operations, glass-making, and cow bedding.

2. DNR officials indicate that three years ago, there were five industrial sand mines and five industrial sand processing plants in the state. Processing plants perform activities such as washing, drying, sizing, or coating the sand with resin. They can either be located at the mine site, or sand is trucked from the mine to a processing plant at another site. In August, 2012, the Department estimated there were 54 active mines or processing plants primarily involved in frac sand delivery. DNR officials recently estimated that, as of April 1, 2013, there are 105 industrial sand mines and 65 industrial sand processing plants in the state, which is two to three times the number the Department was aware of in the summer of 2012.

3. In the summer of 2012, DNR performed a workload analysis of the need for permitting, compliance, and monitoring activities at frac sand mines as part of the development of the Department's 2013-15 biennial budget request. DNR identified a workload need totaling 10.2 full-time equivalent positions related to the 54 known sites at that time. Department officials indicate they recognized it would be difficult to obtain 10 positions, but identified a minimum need for at least four positions, and ultimately requested two positions to begin to increase the focus on these sites. As noted above, the number of known frac sand operations has at least doubled since DNR completed its analysis.

4. DNR receives federal grants from the U.S. Environmental Protection Agency (EPA) for performance of various air management activities agreed on by EPA and DNR associated with implementing provisions of the federal Clean Air Act. DNR officials indicate federal air grant levels have been stagnant in recent years. While sand mine compliance and monitoring would be authorized uses of the federal air grant, DNR would have to obtain EPA approval first, and would have to reduce air related activities at other sources of air pollutants.

5. DNR officials indicate that federal air grant funds are currently sufficient to fill 38.0 of the 40.0 FED authorized air management positions. DNR has been holding vacant the remaining 2.0 authorized FED positions, and would not be able to fill them during 2013-15. The two vacant positions would be deleted under the bill. While the Governor's budget includes a net zero change in the number of authorized positions in the air management program, the use of the environmental management account funding would allow DNR to fill two more positions than are currently filled, and would allow DNR to dedicate the two new positions to industrial sand mine compliance and monitoring.

6. The two positions would be air management engineers and would work primarily in the West Central and Northern Regions of the state. DNR officials indicate the Department would probably allocate the time of three to four existing experienced staff in the two regions to provide 2.0 full-time equivalent (FTE) of staff time on industrial sand mines. The two FTE would focus, in large part, on completing full or partial compliance evaluations, including inspections, of operating industrial sand mines. Staff would review compliance with requirements of DNR permit programs related to air construction, air operation, storm water, high-capacity well, wetlands, and endangered resources. Inspection related activities can average approximately 40 hours to prepare for, perform the inspection, write up the inspection report, and hold an enforcement conference if needed. Inspections can involve review of permits, discussions with the operator about best management practices, review of blasting plans, inspection of equipment, review of plans for control of fugitive dust, and review of company reports of operations.

7. DNR officials indicate that the combination of the rapid growth of the industrial sand mine industry and DNR's limited resources has resulted in some frac sand mines not receiving inspections or only being inspected if DNR receives complaints about the operation. DNR focuses its staff resources related to industrial sand mines on responding to complaints about operations with significant compliance issues. Based on an average need for one week of time for these inspections and related activities, it could be anticipated that the two new positions might allow most industrial sand mines to be inspected during the 2013-15 biennium.

8. While the positions would be based in the air management program and focus on compliance inspections, the DNR staff would also perform other activities. DNR anticipates the positions would respond to complaints from persons who live near frac sand mines related to concerns such as fugitive dust at the mine site, failure of storm water structures, discharge of contaminated sediments to adjacent properties, improper abandonment of exploration boreholes, and potential violations of high-capacity well permits. They would also monitor compliance with storm water, high-capacity well, and wetlands programs.

9. Currently, industrial sand mines pay DNR fees associated with the specific permits they are required to obtain. DNR administrative functions are paid for from the various program revenue permit appropriations. For example, when sand mines, sand processing facilities, or any other facilities, construct a source of air emissions, the facility is required to obtain an air construction permit. The cost of an air construction permit is intended to pay for the cost of reviewing and issuing the construction permit, varies according to the specific details and size of an individual operation, and has ranged from roughly \$6,000 to \$45,000 for sand mines in west central Wisconsin. Construction permit fees are not used for ongoing compliance and monitoring after the sand mine begins operation.

10. After a sand mine is constructed, it must generally obtain a state air operation permit within 18 months after commencing operation, and pay a \$300 annual air operation permit fee. Some operations may have a small enough amount of air emissions to not need an air operation permit. Other sand mines may have air emissions that approach thresholds where they must obtain air operation permits as a federally-regulated source of air pollutants. Some of the sand mines and processing plants are such new operations that they might pay their first \$300 annual operating permit fee in 2014.

11. The air management program allocates time equal to roughly 1.0 to 1.5 positions of the approximately nine filled positions funded from state air operation permit fees to work on sand mine permit issuance and compliance. A separate budget paper discusses the Governor's recommendation related to an increase of air operation permit fees for state-regulated sources. If all of the 170 sand mines and processing plants pay a \$300 annual operating fee, it would generate revenue of up to roughly \$51,000 under current law, which would fund roughly 0.5 position, or revenue of \$123,000 under the bill, which could fund approximately one position. DNR officials indicate the Department is unable to allocate additional time to industrial sand mine compliance work from state air operation permit fees, under current law or the bill, because of competing time priorities for workload associated with compliance work at other stationary sources with state air permits.

12. Use of environmental management account funding for the positions would be the first time the account is being used to fund air management compliance activities. The account is currently used for DNR activities related to contaminated land and groundwater cleanup, waste management, and recycling. It could be argued that the environmental management account is an appropriate source of funding for the DNR activities performed at the industrial sand mines because the positions would coordinate compliance with several DNR programs, including air management, storm water, well, wetlands, and sometimes other DNR permitting programs. Alternatively, it could be argued that the activities should be funded from air permit fees rather than from the environmental management account. However, as noted earlier, air permit fees are anticipated to be insufficient to fund a significant increase in time spent on compliance and monitoring activities at industrial sand mines.

13. Under the bill, the environmental management account is anticipated to have sufficient revenue to fund the two positions and all other expenditures recommended under the bill during the 2013-15 biennium. However, annual expenditures authority would exceed anticipated revenues. Consideration of the 2015-17 biennial budget will need to include a review of revenues, expenditures, or both, from the account to address this structural imbalance.

14. It could be argued that the environmental management account is the best available source of funding to address the need identified related to industrial sand mine compliance and monitoring. In addition, the expected account balance offers an opportunity to utilize funding for a critical environmental need identified by DNR and citizens who reside in areas with industrial sand mines. It could also be argued that new expenditures should not be authorized from the environmental management account when it is uncertain whether revenues will be sufficient to fund the positions beyond the 2013-15 biennium.

15. The Committee could choose to approve the Governor's recommendation for two positions allocated to industrial sand mine compliance and monitoring. This would recognize the identification of an unmet environmental regulatory need for a rapidly growing industry (Alternative 1) and would allow DNR to increase its focus on environmental compliance at these facilities.

16. If the Committee wishes to provide additional resources, but on a more modest level than recommended by the Governor, it could provide one position instead of two, with \$111,700 SEG annually (Alternative 2). It is possible that DNR could utilize this position to shorten the response time to complaints it receives about industrial sand mine operations.

17. The Committee may wish to consider providing four positions instead of the two recommended by the Governor, in recognition of the fact that the number of industrial sand mines and processing plants has more than doubled since last summer. In addition, provision of the additional positions would recognize the immediate critical need for addressing environmental compliance issues associated with a rapidly growing industry that significantly alters the land. Under this option (Alternative 3), a net increase of \$111,700 in 2013-14 and \$223,400 SEG in 2014-15 with 2.0 SEG positions could be provided beyond the two positions provided by the Governor.

18. If the Committee believes that DNR is doing an adequate job of ensuring frac sand mines are complying with air and water permit and regulatory requirements, it could choose to delete the recommended SEG positions (Alternative 4). DNR would have to look for ways of reallocating existing staff from other priorities to work on industrial sand mine compliance and monitoring work, or frac sand mines would only be inspected in response to complaints about the most serious of environmental concerns.

19. Since DNR will continue to hold the two federal positions vacant because of insufficient funding, they could be deleted whether or not the SEG positions are provided.

**ALTERNATIVES**

1. Approve the Governor's recommendation to convert \$223,400 and 2.0 positions annually from FED to environmental management account SEG for industrial sand mine compliance and monitoring activities.

2. Approve the Governor's recommendation to delete \$223,400 FED and 2.0 FED positions annually. In addition, approve \$111,700 SEG and 1.0 SEG position annually for industrial sand mine compliance and monitoring activities.

ALT 2	Change to Bill	
	Funding	Positions
SEG	- \$223,400	- 1.00

3. Approve the Governor's recommendation to delete \$223,400 FED and 2.0 FED positions annually. In addition, approve \$335,100 SEG in 2013-14 and \$446,800 SEG in 2014-15, with 4.0 SEG positions annually for industrial sand mine compliance and monitoring activities.

ALT 3	Change to Bill	
	Funding	Positions
SEG	\$335,100	2.00

4. Approve the Governor's recommendation to delete \$223,400 FED and 2.0 FED positions annually. Delete the Governor's recommendation to provide \$223,400 SEG and 2.0 SEG positions.

ALT 4	Change to Bill	
	Funding	Positions
SEG	- \$446,800	- 2.00

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