

## **Executive Summary**

A statewide building code, a copy of which is provided as the next document in this attachment, became law in April of 2004. As a result, differences in building standards that existed between municipalities have been eliminated. The inequities between the costs of repair that resulted from the differing standards have also been eliminated.

Decisions on Department of Environmental Protection (DEP) policy in active mining cases hold mining companies liable for upgrades to meet current, applicable building codes. Currently, the Mine Subsidence Insurance Fund (MSI) does not allow payment for code-required upgrades as part of repairing subsidence damage. The insuring agreement states the allowable cost of repair does not include “the cost of repair or replacement which is due to any ordinance, regulation, or law governing construction or repair.” This creates a conflict of policies within two programs of the DEP. Work has begun on possibly changing the building code policy within the MSI program to allow for payment of code-required upgrades as they relate to repairs of subsidence damage. The scope of this project was to determine the effects on the MSI program, in terms of costs, if building code required upgrades were paid for through the MSI program.

It should be noted that while the insuring agreement does not allow payment for code-related upgrades, the bid sheets that MSI provides to homeowners and contractors do not state that code-related upgrade should not be included. Therefore, unless homeowners and contractors read the insuring agreement, they likely would not know that code-related upgrades are not covered by MSI.

The cost effects on the MSI program were analyzed through two procedures. The first procedure looked at the impact of building codes on past supported MSI claims involving full/partial foundation replacements. Homeowners and contractors were contacted to determine what effects, if any, MSI not paying for code-required items had on the bids that were submitted to MSI. The second involved developing a hypothetical situation where building codes would require a larger foundation installation. Current construction costs and information from previous claims was used to determine a potential cost increase due to building code requirements for foundation work.

The review of previously supported claims revealed that if MSI had already changed its policy to allow for code-related upgrade costs, there would be few, if any, changes to the bids MSI received. If upgrades were required, the contractors already included these items in their bid, even if they were not specifically noted. The contractors MSI spoke with indicated they bid jobs to meet the building code requirements of the municipality.

Building Code Impact on the  
Mine Subsidence Insurance Fund

The hypothetical analysis revealed a minimal effect on MSI's cost due to code-required upgrades for foundation work. Code-required upgrades could affect areas other than the foundation. However, these effects should also be minimal, especially compared with the total of all MSI monies paid on supported claims.

Under current code conditions, inclusion of code-required upgrades in claims would have a minimal affect on MSI's costs. It is difficult to predict the total effects of a future statewide building code on MSI' costs. However, the hypothetical analysis revealed only a small increase in costs. The cost increases due to code-required upgrades do not appear to be prohibitive.

## Research

### Impact on Past Claims

Two major types of foundation repair work are typically authorized by MSI. The two types of work are full/partial foundation replacements and foundation piling. The majority of the foundation work authorized within recent history been foundation piling. MSI's experience is that permit requirements and building code issues are not enforced in cases where foundation piling is the repair method. Therefore, the cases where permits and building codes could be an issue are full/partial foundation replacements

MSI has paid seven claims within the past 3 years involving full/partial foundation replacements where the homeowners have performed the authorized repair work. These seven claims are the data pool for the research into permit and building code impacts on past MSI claims.

### Hypothetical Impact on Future Claims

MSI also examined possible cost increases to meet building codes for commonly authorized repair work. The possible cost increases may be encountered once a statewide code is implemented and/or municipalities become more involved in subsidence repair cases. MSI believes municipalities may become more involved with subsidence repair cases if they know that MSI, and not the homeowner, is paying for building code upgrades and permits. Possible cost increases for items such as concrete block and footings were examined.

A hypothetical situation was used whereby an existing 8" block foundation is replaced with a 10" block foundation. In this case, the 8" X 16" footing is replaced with a 10" X 20" footing. A commonly sized house (40' X 25') was used for calculations. With this size home, approximately 155 lineal feet of footing and 1260 sf of block are replaced.

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The cost (as a percent of the total project cost) for removing and replacing concrete block and footings in a recent full foundation case was approximately 21%. This percentage was applied to the increased cost for larger block and footings to determine a potential project cost increase due to foundation code requirements.

### **Findings**

#### Impact on Past Claims

MSI was able to contact six of the seven homeowners and/or contractors who performed full/partial foundation replacements through MSI in the past three years. In each of the six cases, no permit was required for the authorized repair work. One homeowner did obtain a permit, however, the permit was necessary because the homeowner was performing additional work beyond what was authorized by MSI. Municipalities have different permitting requirements. Some municipalities consider mine repair work as a catastrophic event and do not require permits. Other municipalities only require a permit if the living space of a home is increased.

The contractors indicated they bid jobs to meet applicable codes and requirements. Any upgrades or cost increases necessary to meet code requirements would be included in the bid, even if they were not specifically indicated. The contractors would not want to bid the job with materials or practices they knew did not meet applicable codes. Incorrectly bidding the job could lead to cost overruns that would need absorbed by the homeowner, or more likely the contractor.

#### Hypothetical Impact on Future Claims

Possible cost increases were examined for replacing concrete block and footings. Given a hypothetical 40' X 25' house, the option to replace with 8" concrete block and a 8" X 16" footing costs \$14,328.35. The option to replace with 10" block and a 10" X 20" footing costs \$17,636.75. This is a \$3,308.40 (23%) cost increase for larger blocks and footing.

Using the percentage of total project cost for block and footing as 21% yields a total project cost for the hypothetical house of \$68, 230.24. Therefore, the project cost increase for using larger blocks and footing (\$3,308.40) is 4.8%.

## Conclusions

### Impact on Past Claims

The review of past supported claims revealed that if MSI previously allowed for code-required upgrades in these claims, there would be little to no change in the bids that were received by MSI. The contractors MSI spoke with indicated they bid jobs already taking into account code requirements. Therefore, the bids MSI received and accepted would have already included any necessary code-required upgrade costs.

Permits were not required in any of the full/partial foundation cases. Even if permits costs were added, the costs for permits are minimal, generally under \$100.00.

### Hypothetical Impact on Future Claims

The hypothetical analysis showed a potential 4.8% cost increase for foundation-related code issues. This potential increase would have a minimal cost effect on MSI. Code-required upgrades could also affect other areas of the structure. However, when compared to total project costs and especially to the totality of MSI monies paid on supported claims, this effect should be minimal.

Most authorized repairs do not involve foundation replacement work. Therefore, this potential increase for code-required upgrades would not affect most supported claims. MSI believes costs for building code upgrades have already been included in contractor bids that were accepted in the past.

It should also be noted that MSI already includes a number of building upgrades as a matter of good construction practice. For instance, if MSI knows that a damaged structure does not have a footing, MSI will pay for the installation of a footing to minimize the possibility of future problems due to poor construction. Other upgrades already included by MSI where applicable include: foundation drainage systems, foundation waterproofing, and oversized footings. In the case of foundation drainage systems, MSI often backfills against foundations completely with gravel, which goes beyond what building codes require.

While it remains somewhat unclear the effect that a potential statewide code will have on building code enforcement, the above analyses and MSI's experience indicate that the MSI program paying for code-required upgrades will have a small effect on the program's costs.