

## LESSONS FROM A COALMINE

*It's a dirty job and SOA expert Graham Oakes actually did it.*

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**Graham Oakes: focus on building relationships**

Working in a coalmine taught me a lot about service levels. Coal mining is pretty simple – coal is valuable, shale isn't. So you try to dig out lots of the former while leaving the latter behind.

Of course, there are complexities. It can be hard to dig out the coal without also shifting a lot of shale. And coal often grades into shale – the coal seam gradually becomes a mixture of coal and shale, then eventually pure shale. So it's hard to know where to stop digging.

But it's the contracts – the mine's equivalent of service levels – that create real complexity. The mine I worked in provided coal to a nearby power station. Our contract set tight specifications on the quality of that coal. For example, there were big penalties if our coal contained too much ash (ie, shale).

So we were careful not to mine too much shale, weren't we? Well, no...

The mining engineers' main job was to work out how to mine as much shale as possible. Selling pure coal made little sense – we got no bonus for exceeding the specification. If we mixed in a little shale, then we sold a higher volume of 'coal' with no penalty.

In fact, we often mixed in more shale than the specification allowed. We had to pay penalties, but it was worth it. Selling twice as much 'coal' at three-quarters of the price generates a lot more revenue than selling pure coal at full price. If we could do this while controlling our costs, then profits went up.

That's what the mining engineers were managing. They spent their time calculating the best balance between the volume of 'coal' we could sell, the price we'd get for it, and the cost of extracting it. This generally meant breaking the contractual specifications.

It is similar for most service levels – whether they are for coal quality or, say, system availability and response times. Service providers will try to meet their SLAs if they can, but not at the expense of levels of staffing or redundancy that cost more than any penalties. They'll pay penalties if that's the cheapest option.

What does that mean for us, when we write service specifications? We could try to write more 'sophisticated' SLAs. But that's an arms race – as we add more incentives and penalties, people will find fresh ways to game them. Adding complexity just increases costs (especially of lawyers).

I prefer to keep SLAs simple and focus on building relationships. In an emergency, relationships trump economics. And I put my energy into monitoring performance and checking for unintended consequences.

Contracts are important, but it's the actual, achieved service levels that really matter.

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