

Most people are very familiar with the movie *The Great Escape* but may not be familiar with it as a project executed in the spring of 1944. This series of occasional articles looks at the project from a modern perspective. The last two parts (March & April PM Today) looked at risk management. This article looks at the third of the project management knowledge areas of the PMI PMBOK – time management, which defines the activities in the project, completes the activity sequencing, and develops and controls the project schedule.

Roger Bushell (the 'Big X' or project manager) was well aware that 'known' constraints would dictate the scheduling of activities for The Great Escape project. Notably, the length of the project timeline, and seasonal constraints:

- The project timeline was a very important factor. Part 3 identified numerous risks in the project, but the top one, to which Bushell paid most attention, was the risk of discovery. The shorter the timeline, the less likely the escape plot would be discovered and therefore the lower the risk.
- The seasons had a critical impact on the project as, in the winter and spring, the night temperatures were well below freezing. From December to April heavy snow lay on the ground.
 - In reality escape was not possible in winter because of the difficulty of surviving in the harsh environment and climate. The POWs would have very limited access to shelter, water and food and would have to carry most of these necessities on their persons. So, the summer was escape season.
 - Sand dispersal and concealment were not feasible on snow-covered ground as it would be a dead giveaway to tunnelling.
 - Tunnels could not be kept open indefinitely through the year as, in the spring, the thaw would melt snow and ice and the additional weight of water could bring the tunnel down.

Bushell was also aware there were 'unknown' constraints that could dictate the scheduling of activities, and impact the activities by varying degrees. Notably:

- Ferrets' suspicions about 'illicit' activities would result in an increase in the number of hut searches and their intensity.
- Discovery of one tunnel would probably shut down all tunnelling activities (three tunnels were planned) till things cooled off.
- Close, cramped quarters, and primitive hygiene and sanitation meant that colds, flu, or more serious infectious diseases could spread rapidly through the POW population, affecting POW availability for the project workforce.



Project lessons from the Great Escape

by Mark Kozak-Holland

Part 4: project time management



Figure 1: The winter climate was harsh for the POWs (Courtesy of the US Air Force Academy Library's Special Collections)

- Changes like the slowdown in the delivery of Red Cross parcels to the camp and POWs would affect food supply and the ability to keep the POWs going.

In today's projects, time management starts with activity definition. The escape committee defined the principal activities as:

- tunnel engineering
- sand removal and dispersal
- construction of escape aids (this activity could continue in parallel without any dependencies on the previous two activities)
- preparing escapers with identities, adequate documents, disguises, clothes, roles, cover stories, and rudimentary language capabilities

Time management continues with activity sequencing and, for the project, the following activities were closely dependent:

- tunnel engineering
- sand removal and dispersal

The latter impacted the former as the rate of sand removal, dispersal, and concealment dictated the rate of tunnel engineering. In simple terms there was no place to store sand so it could not be accumulated in any quantity. The scale of the problem was only well understood through experience in previous tunnelling efforts.

Time management continues with activity resource estimating and for the project this was determined by experiences from previous escapes.



Figure 2: Close, cramped quarters meant that 22 POWs lived in a small hut (Courtesy of the US Air Force Academy Library's Special Collections)

For tunnel engineering, the size of tunnels dictated the rate of digging. The small tunnel face (2ft x 2ft) could be dug by only one man at a time, as part of a two-man team. The overall size of the tunnel engineering team was relatively small (up to 12 tunnel engineers), so manpower was readily available, and the team was highly skilled. The type of soil (sand) was easy to dig but required specific engineering tools (spades) and, most important of all, materials in great quantity to shore the tunnel up. The bigger problem for Bushell was the ability to remove, disperse and conceal the sand and this was based on a number of factors such as soil composition, the seasons and climate.

The PMBOK time management section continues with activity duration estimating. This determination was based on previous experience. For example, the soil structure dictated the rate of digging, and this was on the critical path. Closely correlated to this was the rate of sand removal and dispersal as well as conditions that impacted this rate; for example, the Ferrets would be on the lookout for traces of the easily distinguishable sand.



Figure 3: The hygiene and sanitation conditions were very primitive, where only cold water was available (Courtesy of the US Air Force Academy Library's Special Collections)

Next on the path is schedule development. For Bushell this was where the known constraints played a factor. The climate dictated a tunnelling season during the spring and summer and, in the spring of 1943, this required that the tunnelling began right away.

The final time-management activity is schedule control. For Bushell this was where the unknown constraints played a factor, on a daily basis. He could determine the efforts put into all the project activities. He could readily move staff around, as certain activities would be slowed down as they came under pressure. He could also adjust resource availability to remove or better accommodate these constraints.

Conclusion

Bushell and the escape committee were well aware of the known and some of the unknown constraints and, more importantly, their impact on the schedule. Bushell's experience in previous projects really helped him manage the project schedule and move POWs to teams as they were required. By doing so he was able to keep morale high through the project.

Mark Kozak-Holland's latest book in the Lessons-From-History series is titled 'Project Lessons from the Great Escape (Luft III)' <http://www.mmpubs.com/books-LFH.html>. It draws parallels from this event in World War II to today's business challenges. Mark is a Senior Business Architect with HP Services and regularly writes and speaks on the subject of emerging technologies and lessons that can be learned from historical projects. He can be contacted via his website at www.lessons-from-history.com or via email to mark.kozak-hall@sympatico.ca. For more information on the Great Escape Memorial Foundation see www.thegreatescapememorialproject.com