A 21st Century Response: Implementing GIS-based Incident Management
That’s not how any of this works...
In today’s world of emergency response, we have engineering marvels - equipment never thought possible. However, in the rush to meet technological demands at the well head, we often forget that we need help managing an incident. Instead IMTs fall back upon tried and true methods – paper-driven, disconnected electronic communications, and manual processes. Such was the case in our US operations. We have some of the best IMT staff in the world, rigorous documentation and procedures, but we lacked the benefits that an integrated GIS and electronic live command system would provide. Everyone was too busy, rightfully so, with ensuring that our sections were staffed with discipline experts and that we were fully compliant with regulatory bodies.
The advantages of a live integrated GIS and Command System are numerous, but it can be very difficult for a GIS and integration team to convince an IMT that it is worth the effort when another, albeit manual, way is proven.
Explaining the need for GIS to non-GIS people can be difficult for GIS experts. Using GIS in incident management can be complex; a non-GIS person making all the connections without being able to see it in action can be nearly impossible. So, we took a different approach: Don’t make everything about GIS. Make it about what integration and GIS can provide to the user: automation, efficiency, cost savings, and most importantly—documentation, public image, and regulatory compliance. We in the GIS team know that these benefits cannot be achieved without a high level of GIS integration and a live command system.
These benefits must be sold to your IMT stakeholders. The focus should be on the automation and efficiency of the live command system, not necessarily on the maps…
The cost of not being the best prepared are negligible compared to that of not being prepared in a real incident. In Statoil USA, we sought approval for a pilot within our own business line for two reasons: less resistance to exploring new options, and exploration owns the exploration wells that the IMT are responsible for in case of an incident. We promised a cheap pilot project that would not interrupt or ask the IMT to change much, and that would show quick results which could then be capitalized upon going forward. We combined forces with our communications and public relations team to help push the pilot as a way to show transparency to the public and regulators. However, we still needed the IMT stakeholders - they must be willing to participate.
Pilot Project: Integration – Not Interruption

- Identified Witt – O’Brien’s as key co-pilot:
  - Provides IMS contract services to Statoil USA
  - Turn-Key software: CommandPro & ArcGIS Online COP
  - Provided staff to input data into system

- GIS Support Tasks:
  - Provided GIS data sets
  - Created COP basic maps
  - Coordinated information gathering from IMT to Witt – O’Brien’s application rollout team
  - Provided staff to create maps

Witt – O’Brien’s was chosen as our initial pilot project provider because Statoil USA already contracts initial response with them and because of their turn-key software solutions which would allow us to deliver on our promises to our stakeholders. The GIS team provided the data sets, maps, and acted as liaison to the IMT.
The pilot was streamlined as much as possible: all systems operate within the cloud, expert staff runs these systems. This allows the IMT and Communications to do their jobs effectively - focus on the mediating the incident.
The were able to produce a live system within approximately 3 months and participate in a planned drill just after user rollout. Results were fantastic, with section staff wanting more!
Now Statoil USA has a live command center assessable from anywhere in the world. This has led Statoil ASA, our corporate centre in Norway, to begin developing a corporate incident management solution.
However, what we have done is just the tip of the iceberg. GIS can and should play a significant role in mitigation, preparedness, and recovery exercises. This is where we will move next.
Some simple examples would be using GIS to place boom in real time, calculate the amount needed, send placement coordinates and instructions to the operator, and then collect from the operator in real time the actual location of boom.
Employees could use GIS apps and badges for location during an incident.
Most importantly, we feel that there should be more feedback from the GIS COP to the Command System - feeding locations, quantities, etc as they are placed on the map in real time by the operations and planning sections.
Thank you.