

**Failure #3 Investigation Log (SIDE 1/2)**

**TEACHER KEY**

This key provides suggested answers, but students might not write about everything mentioned here--or they might have additional ideas, which is great!

File	Summary	How did this contribute to the supersuit's failure?
Video	<i>Monet says Collusia was working on a third suit that would provide cover to swimmers on secret underwater missions. But three people drowned while wearing the suit.</i>	
Audio Clip 1 (Theresa Yan)	<i>Theresa explains what the supersuit needs to do: resist to leaks and provide camouflage.</i>  <i>Theresa talks about the importance of brainstorming with a diverse team, listening to each other's ideas, and building initial ideas by asking experts for input.</i>	
Audio Clip 2 (Darius Jones)	<i>Darius is happy that he's now the only person working on the CamoSuit. He says others' ideas were useless and he is going forward with self-decoration, his own idea. This means adding reeds/rocks/plants to the suit. This will add weight to the suit, but Darius believes (without evidence) that it won't matter.</i>  <i>He complains that people were sharing information with other departments.</i>	<i>Darius is solely in charge of the design project and refuses to listen to other ideas or get input from experts. Working collaboratively, building on ideas, and using expert advice is important to the design process.</i>  <i>Collusia has a rule against sharing information with other departments, which is ethically problematic when it means engineers don't have the information they need to create safe designs.</i>
Audio Clip 3 (Darius Jones)	<i>Darius explains that on the first field test, the suits worked except for two things: one tester reported a leak, and shadows of the testers were visible underwater.</i>  <i>Darius says he is now an expert and believes he can fix everything. He is confident in his material choice and thinks the user who reported the leak was using the suit incorrectly.</i>	<i>Darius doesn't listen to the tester's concern about leaks, nor does he investigate what the cause of the leak might be.</i>

<p>Audio Clip 4 (Darius Jones)</p>	<p><i>Darius says he fixed the shadow problem by adding fringe.</i></p> <p><i>He plans to nominate himself for an award.</i></p> <p><i>More users have reported leaks, but he continues to think they are putting the suits on incorrectly.</i></p>	<p><i>Even though even more testers reported leaks, Darius refuses to investigate. He is arrogant and doesn't look for others' feedback, leading to a bad design.</i></p>
<p>Darius Jones Email Inbox</p>	<p><i>Theresa's last email notes the death of two of the suit users.</i></p> <p><i>Darius arrogantly asked to be the sole member of the design team—and Lisa granted his request.</i></p> <p><i>Darius never read or acknowledged emails from Luke and from Theresa.</i></p>	<p><i>Lisa let Darius work alone instead of encouraging collaboration.</i></p> <p><i>Darius ignored Luke's expert advice about wetsuit materials (which could have helped with the leaks).</i></p> <p><i>Darius ignored Theresa's expert advice about camouflage—which is why Darius' design was bulkier than it needed to be.</i></p>
<p>Collusia Employee Memo</p>	<p><i>The memo confirms that Lisa appointed Darius as the only team member to work on the CamoSuit project.</i></p> <p><i>Lisa also cautioned employees against sharing information.</i></p>	<p><i>Collusia discouraged collaboration and communication, important parts of the design process.</i></p>
<p>River Maintenance Schedule</p>	<p><i>Maintenance crews were sent out into the river even during "Caution" times when the flow was strong.</i></p>	<p><i>Collusia didn't protect workers.</i></p>
<p>Employee Death Report</p>	<p><i>Angelie tells Lisa about the deaths in the TimeTilter and wants to investigate the cause. Lisa tells Angelie to cover up all of the information so no one finds out about it.</i></p>	<p><i>Lisa continues to demand secrecy and shuts down the flow of information.</i></p> <p><i>Lisa refuses to investigate her employees' deaths, which is unethical and puts future suit-wearers in danger.</i></p>
<p>Darius Sketches</p>	<p><i>Darius' drawings show his focus on self-decoration and suggest that the suit will weigh 20 to 30 pounds more due to using this camouflage technique.</i></p>	<p><i>The sketches confirm that Darius didn't get expert advice and didn't acknowledge the possible impact of added weight.</i></p>

**Failure #3 Investigation Log (SIDE 3)**

Overall, what were the problems with how the team used the engineering design process?

- i. *Darius knowingly ignored others' ideas, ignored user feedback, and always blamed other people for problems.*
- b. What were the problems with the way Lisa/Collusia handled situations?
  - i. *Lisa/Collusia discouraged communication and collaboration, covered up deaths, and didn't investigate issues.*
- c. What should Third Eye do differently?
  - i. *Third Eye should encourage collaboration, use expert advice, and build on others' ideas. They should listen to user feedback and investigate problems.*

CONCLUSIONS:

What were the problems with how the engineering design process was used?

*Darius knowingly ignored others' ideas, ignored user feedback, and always blamed other people for problems with the suit.*

What were the problems with the way Lisa (and Collusia) handled situations?

*Lisa minimized communication, encouraged Darius to work on his own instead of with others, covered up deaths, and didn't investigate problems.*

What could Third Eye do differently?

*Third Eye could encourage collaboration and communication, use expert advice, and build on others' ideas. They should listen to any user feedback they receive and investigate any possible problems with their design.*