

## Mech 2005

### *Chapter 2005 Energy Transmission Systems*

Eventually, Gloriana approved of his mech concept. The idea that Ves came up with possessed a lot of potential, but that depended on whether they were able to meet all of the requirements.

"Don't think our mech will be embraced by the Hex Army at large." She warned him. "Our mech will likely be fielded by auxiliary forces in limited quantities on limited battlefields. Even if it performs decently, I doubt the matriarchs in charge of approving mech models will embrace our work. Adopting a mech with a male as its lead designer is simply a step too far. The most we can hope for is that DIVA appreciates our end result and tries to deploy it in as many battlefields as possible within its own power."

Ves nodded in understanding. "I am okay with that. I'm very much aware that a mech designed by just two Journeymen won't be able to offer the level of performance and optimization that is expected of a fully-vetted Hexer mech."

Unlike the other mech models of the Hex Army, no Masters or Seniors were involved in their project. While Journeymen were very capable in designing serviceable mechs, their efficiency, cost-effectiveness and optimization could not keep up with the efforts of more advanced mech designers.

Personally, Ves believed that the glow he intended for his Hexer mech would make a very huge difference. It might even be able to get those conservative Hexer matriarchs to reconsider their stance on rejecting mechs designed by male mech designers!

Both Ves and Gloriana became passionate about this project.

It had always been a dream for Gloriana to design a mech that would be fielded alongside the impressive mechs of the Hex Army. As a young Journeyman, the most she could hope for was to join a design team under a more experienced Senior or Master.

Now that she had the opportunity to design a mech with an equal partner, she wanted to make the most of it in order to prove she possessed the qualifications to enter an exclusive circle of Hexer mech designers who were able to contribute to the strength of her home state!

As for Ves, he had several reasons to feel enthused about the vision he came up with. For one, the sheer utility provided by his mech design truly possessed the potential to shift the direction of the war.

Though the mech's energy resupply function wasn't that impressive due to the limited reserves, it was worth its weight in exotics at critical times! Combined with the motherly

glow coming from the mech, Ves hoped that his mech would function as a considerable force multiplier that enhanced both the mech and mech pilots fighting on behalf of the Hegemony!

"This is going to be my revenge against the Friday Coalition!" Ves deviously grinned.

His efforts would teach the Fridaymen and everyone else that he was not as passive and defenseless as everyone thought! Anyone who crossed him needed to fear his retaliation in the form of empowering their enemies! Only through developing this kind of reputation would he be able to deter any further opportunistic attacks!

The pair immediately went to work. They revised the draft design and tried to project how much capacity they needed to allocate towards defense, mobility and utility. It was extremely difficult to find a good balance between all of these aspects.

Nonetheless, after selecting a number of suitable components and accelerating their exploration efforts by engaging a virtual design session, they managed to come up with a decent draft design that looked quite adequate for their purposes.

"It's a bit slower than I like, but our mech doesn't necessarily need to sprint to the front either." Ves remarked as his implant tried to calculate the expected performance parameters if they fleshed out the draft design. "It can still keep up with general offensive maneuvers, which is already good. At least it can take a punch, especially with its shield."

As for the energy reserves of his Hexer mech, all he could say about it was that it was adequate. It provided a decent amount of energy to top up the spent energy of a single mech squad, but even then it quickly ran empty.

Due to its limited energy reserves, Ves tried to mitigate this problem by enhancing and increasing its energy transfer and siphoning process.

He expanded on this idea and tried to find some components that the Hexers made available to them. While the parts weren't the top-of-the-line, they were quite decent for Hexer midrange mechs, which matched the budget for their mech design.

Still, it was a huge challenge to integrate all of these components in a single package.

"There are several technical challenges we need to overcome." Gloriana pointed her finger at the energy transmission systems. "Aside from the ones we've discussed before, this is the biggest problem area of all. To make our mech's support function practical, it has to be able to transfer energy to friendly mechs quickly. The huge power flows puts an enormous stress on every system that is responsible for passing energy from one mech to another mech. Not only do we need to prevent the transmission systems from overloading, we also have to manage all of the heat that will doubtlessly emerge as a result of all of those transfers."

No process was completely efficient. Along the way of transferring energy from point A to point B, a miniscule amount of it is wasted in the form of heat and other forms.

Usually, this wasn't a big deal when devices ran at low levels. Yet when energy transfers started to increase in power, inefficiencies rapidly started building up! This was the price of running systems at higher power levels!

Energy transmission systems weren't exempted from this rule. In fact, they suffered more than most because they were expected to transfer a lot of energy in a very short amount of time!

If his Hexer mech took ten minutes to resupply the spent reserves of a friendly mech, then he might as well scrap its design!

While such a gentle energy transfer process resulted in very little waste and heat buildup, it took up way too much time in a fast-paced battle where every second counted!

Ves ideally wanted his Hexer to replenish a quarter of the total energy reserves of a friendly mech in about 30 seconds.

That sounded way too ambitious to Gloriana.

"I highly doubt we can accomplish this standard." She shook her head. "The stress to the energy transfer systems and the rest of the mech is too severe. I'm not sure if it's even doable in a minute. We'll have to explore our design further and see whether our implementation can withstand the rigors of rapid energy transfers. Whatever the case, the heat building will be intense. We need to make sure we add enough heat sinks and other heat management systems to avoid overheating problems."

All of these problems sounded concerning, but the mech held genuine promise!

"We can do it." Ves declared, his passion already firing. "With all of this second-class tech, our Hexer mech won't be as limited as our striker mech! We have a lot more options available to solve all the challenges!"

They continued to expand on their draft until they settled on something that contained all of the parts and other features they thought the mech would need to perform all of its functions.

Due to the need to accommodate a lot of additional hardware, they sacrificed several aspects of the mech.

First, its defense wasn't as good as Ves wanted to. While it was capable of lasting for a fair amount of time under enemy fire, the mech had to rely on cover or the protection of other mechs in order to remain alive for sustained periods of time.

Second, they reduced the mobility of the mech even further. To free up capacity, Ves had to select several miniaturized components that offered reduced performance but took up significantly less space.

The problem with miniaturized components was that they were much more expensive than their normal-sized versions, so the smaller mech engine and other systems ate up a significant portion of their budget!

Third, its offensive power was pretty bad. There was no way around the truth that the mech wouldn't be able to exert much strength or momentum in its sword attacks. Even though Ves wanted to give the male mech pilots of his Hexer mech a chance to prove their battle prowess on the battlefield, he ran out space to accommodate this need.

"It's okay." Gloriana assured him. "Male mechs aren't expected to do the heavy lifting in the first place. It's enough if our mech can stall an attacker. They are only expected to last until they are rescued by female mechs!"

Ves looked glum. In the end, his Hexer mech shared some disturbing similarities with the Good Boy 77S. Both male mechs essentially adopted the role of damsels in distress.

"Oh well." He sighed. "Even if my mech can't defeat another mech, it can at least absorb a lot of hits while evading some of the rest. I can't say the same for the Good Boy."

Making a mech that could last on the battlefield was his highest priority. This was why he didn't limit the energy transmission systems to a one-way flow.

What he really wanted to implement was a mech that could siphon energy as well as donate it whenever required!

He outlined his rationale to Gloriana. "We can't escape the fact that the total energy reserves of our Hexer mech is quite limited. In order to extend the operation time of our product, I want to turn it into an energy vampire!"

Gloriana frowned. "Where will it take its energy from?"

"There are many sources of energy if you think about it." He shrugged. "One readily-available source is fallen mechs. As long as their wrecks are reasonably intact, I'm sure that they carry a lot of energy cells that aren't expended. That's energy for the taking! As long as we can implement a method where our mech can steal all of that juice, our mech won't be forced to return to the rear in order to keep up its functions!"

"All of that energy transfer will generate even more heat, Ves. We'll have to bolster the heat management systems of our mech even more if we try to implement this function."

"Then let's do that! I think this is the key to increasing the utility of our mech! There are fallen mechs in every battle, Gloriana. Usually, the winners get to claim the salvage that is left behind, but they always have to wait until the battle ends before they can pick up the remains! This energy siphoning function can work faster and under more critical circumstances!"

This was truly a great idea, but Gloriana already foresaw a lot of problems trying to turn it into a practical implementation.

Still, she didn't shy away from these challenges. In fact, she embraced them as a test of her mettle!

After designing the Bright Warrior and becoming a masterwork mech designer, she improved substantially. The simple striker mech design they were working in parallel to their Hexer mech design wasn't challenging enough to push her to her new limits.

She wanted to see how much her increased mech affinity and all of the insights she gained from the Quint and Master Willix affected the quality of her work!

"This mech.. has the potential to be very powerful." She cautiously admitted. "Yet.. what stops others from stealing our design? What if the Fridaymen get their hands on the full design specifications and mass produces our own work? It happened before with some of the Hex Army's best mech models."

Ves grinned and laughed. "HAHAHAHA! Let them try! This is one of the problems I'm least worried about! My Holy Soldiers and Deliverers only exhibit their full potential when they are piloted by devout Ylvainans. Our new Hexer mech will be similar once I complete my next spiritual product!"

Any Fridaymen that attempted to pilot his Hexer mech would severely regret it, that was for sure!

#### *Chapter 2006 Class System*

After a long and exhausting day at work, Ves and Gloriana eventually wrapped up their design session. They ate supper with Dr. Ranya and the other important guests on the Scarlet Rose before retiring to their stateroom.

After spending an evening cuddling with each other while they watched some news programs, they got ready for bed.

As Gloriana cozily settled in their bed, Ves began to look hopeful at her as he laid on the other side.

He glanced at the bodyguards standing vigilantly at the sides. He also threw a look at Lucky and Clixie, who were perched together on a floating cat bed.

Though he felt a bit disturbed by the lack of privacy, his previous experience made him a lot less shy about his 'performance'.

He slowly scooted over until his body was right next to his dozing girlfriend.

"Gloriana?"

"Yes, honey?"

"Would you like to.."

She yawned. "I'm tired, Ves. We have a lot of design work in store tomorrow. Let's make sure we have a good night's rest so that our fully-refreshed brains can handle all of the strain we will put it under when we link up our implants again."

That sounded distinctly unromantic to Ves. His drive was already starting to stutter.

"Uhm.. don't you want to.. you know.."

He reached out with his hand to place it on the curve of the small of her back. Just as his hand reached its destination, Gloriana mercilessly swatted it away!

"Bad Ves! This isn't the time for fun!"

"But.. but.. Didn't you enjoy—"

"—That was then, this is now! You don't get to have a piece of me until I say so, is that clear?"

Ves looked dejected. "Yes.."

"Great! Now go to sleep. If I want to have some fun, I'll dismiss the guards, but until then you better keep your hands to yourself, is that clear?"

He nodded.

"Good night, Ves."

"Good night..."

Ves did not have a good night.

The next day, Gloriana was all smiles as she began to partake her breakfast while her cat was eating from a bowl placed right next to her plate.

"Miaow!"

"Hihihi! I love you too, Clixie!"

Lucky on the other hand curiously poked a morose-looking Ves as he listlessly shoveled his high-calorie food through his gullet.

"Meow?"

"It's not that simple, Lucky."

"Meow."

"Hahaha. No. Her bodyguards would crucify me. Humans aren't supposed to do that!"

"Meow." Lucky threw a contemptuous expression at Ves before floating away.

Even his own cat regarded him as a loser!

"At least I got some, unlike you!" Ves hissed after his departing pet!

"What are you talking about, Ves?" Gloriana looked up at him from the other side of the table.

"Ah, nothing, hahaha!" Ves awkwardly rubbed the back of his head. "I won't be joining you at the design lab in the morning. The fleet is just about to exit FTL, which means I'll be meeting with the Larkinson elders."

"Is it about letting outsiders into the clan?"

He nodded.

"You know my stance on the matter. I think you should really consider accepting Calabast's proposal. Though I don't like the woman, I think she is right in this case. The Larkinson Clan can be something more as long as you can navigate all of the challenges."

"It's not up to me." He shrugged. "This is such a sensitive matter that only the support of the Larkinson Assembly can legitimize this measure."

His girlfriend shook her head. "I think you're wrong. Your influence among your fellow clansman is very high. You're the Devil Tongue, right? If you really want to, you can always put your persuasive talents to use in this instance."

"Calabast already suggested something similar." Ves frowned. "I rejected her, because you know why? My so-called Devil Tongue should only be directed towards my enemies. I would never unleash it against friendlies, let alone my own relatives!"



"Ves, Ves, Ves. Politics makes no distinction between friends and enemies. At the very least, the methods needed to handle both are the same. You may think that you need to hold back against your own side, but if you aren't careful, you may find them turning their backs on you at the most inconvenient times!"

He stubbornly shook his head. "I won't do it. I won't subject my own family to my Devil Tongue. This is my principle!"

"What about all of those speeches you held in front of the Larkinson Clan? I've been watching you closely while you held your speeches, you know. You employed a nearly identical approach to the one you used against your enemies."

Ves awkwardly shifted on his seat. "That's different. I didn't excoriate my relatives. I simply tried to be as persuasive as possible without crossing any lines."

"Manipulation is manipulation no matter what kind of coat you choose to dress it up. Holding back can be a deadly mistake sometimes. Just think about it, Ves. You don't have to abide by the decision of your clan if you don't agree with the consensus your relatives have reached."

With that, they ended their breakfast and went their separate ways.

Ves took Lucky to his office compartment and went through his daily briefing before the fleet exited from FTL.

With no enemies in the abandoned star system, a series of shuttles began to depart from the ships.

A couple of them headed to the Scarlet Rose. Soon enough, their passengers arrived at his office.

"Raymond, Ovrin, Clinton, please take a seat."

They seated themselves on the comfortable chairs that appeared from the ceiling and floated down.

The three Larkinson elders each represented the Executive Council, the Larkinson Assembly and the Larkinson Court respectfully. While they didn't speak for their entire body, they still wielded an immense amount of influence.

"Let's start with the rationale to allow outsiders into the clan. What made you accept this proposal?"

All three old men looked at each other.

Eventually, Raymond Billingsley-Larkinson spoke up first.



"The Larkinson Clan can't do everything alone. Not right now and no right away. While I share your vision of a strong clan that consists entirely of our trueblood descendants, it's not realistic given the pace in which we move."

"We could move slower." Ves retorted. "We don't have to absorb thousands of outsiders at the same time."

"That's not good enough." Raymond shook his head. "Out of all of us, I'm in touch with outsiders the most, so I can tell you that a lot of our workers and followers are quite devoted to you and our clan. After extensive contact with people who don't bear our name, I gradually realized that our relationship with people like Gavin and Calsie transcend the normal employee-employer relationship. Ever since we left our fixed homes and adopted a nomadic existence, our ships have turned into both our homes and our ships."

Clinton gruffly nodded. "It's not that easy for them to quit their jobs anymore. For all intents and purposes, they are already vassals of ours."

"Is there a problem keeping our relationship with outsiders this way?" Ves raised an eyebrow.

"In the short term, yes. In the long term, maybe." Ovrin Larkinson replied. "From a governance standpoint, maintaining a division between a minority of Larkinson clansmen and a majority of outsiders is very precarious. Who crews our ships? The Ylvainans. Who pilots most of our mechs? Dispossessed Brighters and Ylvainans. These are just the few groups of outsiders who fulfill critical roles. The responsibility and power they hold is quite considerate. Don't you think that sounds dangerous?"

That did sound concerning to Ves. Right now, this didn't present a problem, but if the relationship between the Larkinson Clan and the outsiders ever soured...

"There is something permanent about becoming inducted in our clan." Raymond continued. "Those who are able to become a Larkinson will cherish their status and become more committed to our endeavors than ever. Their loyalty will not only skyrocket, but remain enduring throughout their lifetimes!"

Ves responded with a rueful smile. "That's only when we turn them into true Larkinsons. If we turn them into second-class Larkinsons, I don't think they'll be as happy."

This was the biggest controversy raging within the Larkinson Clan! The faces of the three Larkinson elders immediately shifted. None of them looked as assured as before!

"I don't have an opinion on this." Clinton said. "I accept any outcome the clan adopts as long as it strengthens us. I've perused the history of several other family organizations and I've seen outcomes where it worked and where it went horribly wrong. There are

considerable risks associated with either options, and that makes it difficult to settle on a clear answer."

"Most of the Assembly is in favor of adopting outsiders in our clan, but a significant majority objects to elevating them to the same status as trueblood Larkinsons." Ovrin revealed to Ves. "We value our Larkinson heritage and blood way too much to risk losing both when we transform too many outsiders into 'Larkinsons'. They may bear the name, but they don't bear our blood. What stops them from abusing the power of their majority to their advantage to steer our Larkinson Clan away from our core values?"

Raymond slightly disagreed. "This is a possibility, but not a strong one. The outsiders are more similar to us than the assembly members realize. They are making a mountain out of a molehill. I think if we give the outsiders a chance to truly feel as if they belong to the Larkinson Clan, they will become ardent supporters and followers of our Larkinson way!"

The discussion continued along this vein for a while. Ves heard various arguments and predictions that supported both solutions.

Ves felt very pressured by this dilemma. Neither option were risk-free, and a lot could go wrong if they chose wrong or fumbled in its implementation.

"Alright, I've heard enough." He clapped in order to silence the old fogeys. "Right now, the Assembly is in favor of instituting a class division in the clan, is that right?"

Ovrin nodded. "A majority of our entire clan is in support of this solution. As much as we appreciate the outsiders, most of us still wish to retain our special identity. It sounds selfish, but that is the reality of the situation."

Adding outsiders to the clan meant diluting the power and influence of the insiders. That did not sit well with many current Larkinsons who thought they were above everyone else. It was no mystery why most of them subsequently wanted to form a division within the clan.

This was not an ideal solution to Ves. "If we turn outsiders into second-class Larkinsons, that will in effect perpetuate the current division between clansmen and outsiders. Sure, the distance between them has gotten a little closer, but there is still a gulf between a trueblood Larkinson and an adopted Larkinson. Many of the same worries we currently have about entrusting so many essential responsibilities to outsiders still exist."

"I think we can handle this problem, Ves. As long as we learn from other examples and apply best practices, we can turn second-class clan membership into something that is still valuable."

Though that sounded good, Ves grew increasingly more uncomfortable with the idea. He liked it if his clan was one big happy family. Forming a class system which rigidly separated one group from another group went against his original vision for his clan!

So far, it seemed like the decision-making organs of the clan were slowly drawing towards a consensus that would expand the clan at the same time as dividing it into two. If Ves did nothing, the class system within the Larkinson Clan would become a reality.

Was this the Larkinson Clan he wanted to lead?

Was this the Larkinson Clan that could survive the challenges of the future?

Was this what Ves truly wanted?

The more he thought about it, the more he felt uncomfortable about it. While he was sure it would work okay as long as the Larkinsons managed the transition correctly, a part of him felt as if the other solution held more potential.

To survive in the Red Ocean, his Larkinson Clan needed to be a strong and united collective. It could not afford to exhibit any fault lines that his enemies could exploit!