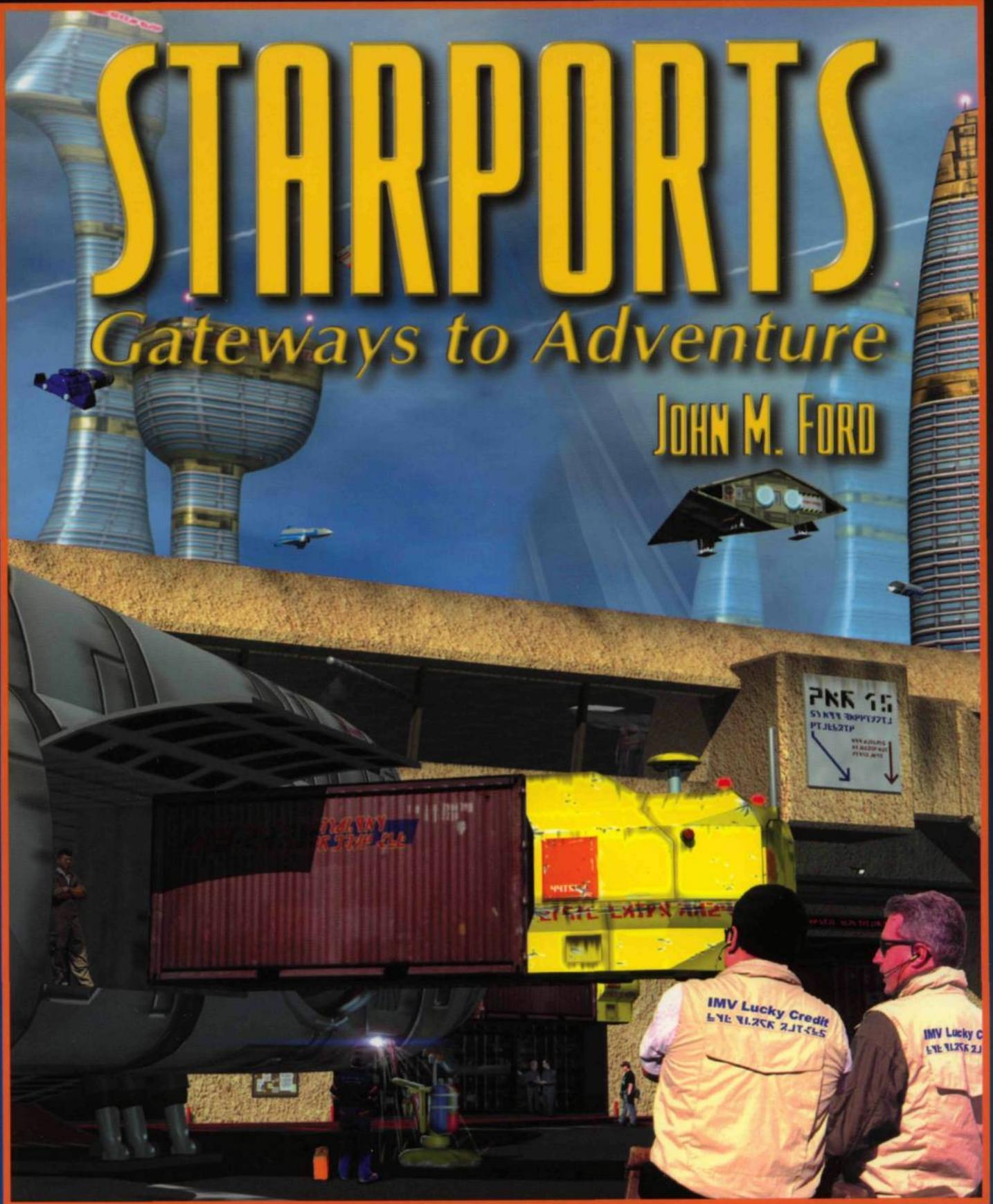


GURPS® *Traveller*®

STARPORTS

Gateways to Adventure

JOHN M. FORD

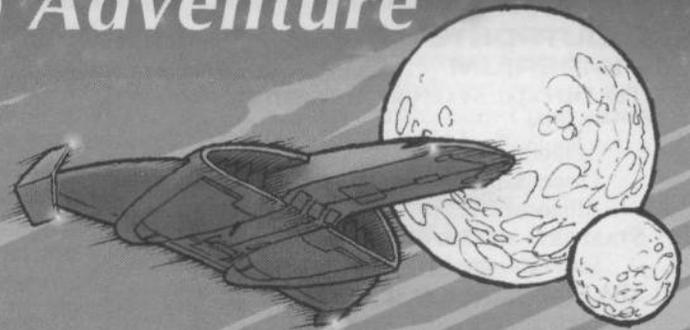


STEVE JACKSON GAMES

GURPS[®] Traveller[®]

STARPORTS

Gateways to Adventure



NORTHCOTT 2000

**By JOHN M. FORD WITH
JAMES D. MALISZEWSKI**

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science fiction universe by MARC MILLER*

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STEVE JACKSON GAMES

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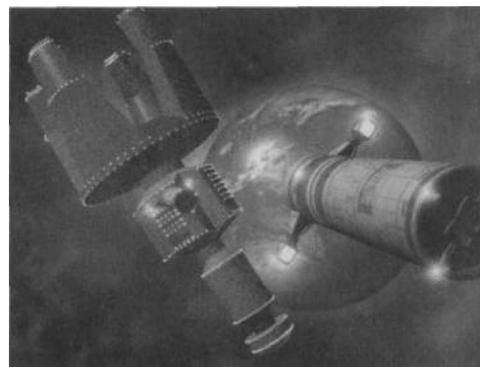
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About GURPS

Steve Jackson Games is committed to full support of the *GURPS* system. Our address is SJ Games, Box 18957, Austin, TX 78760. Please include a self-addressed, stamped envelope (SASE) any time you write us! Resources now available include:

Pyramid (www.sjgames.com/pyramid). Our online magazine includes new rules and articles for *GURPS*. It also covers the hobby's top games - *Advanced Dungeons & Dragons*, *Traveller*, *World of Darkness*, *Call of Cthulhu*, *Shadowrun*, and many more - and other Steve Jackson Games releases like *In Nomine*, *INWO*, *Car Wars*, *Toon*, *Ogre Miniatures*, and more. *Pyramid* subscribers also have access to playtest files online, to see (and comment on) new books before release.

New supplements and adventures. *GURPS* continues to grow, and we'll be happy to let you know what's new. A current catalog is available for an SASE. Or check out our Web site (below).

Errata. Everyone makes mistakes, including us - but we do our best to fix our errors. Up-to-date errata sheets for all *GURPS* releases, including this book, are available from SJ Games; be sure to include an SASE. Or download them from the Web - see below.

Q&A. We strive to answer any game question accompanied by an SASE.

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Internet. Visit us on the World Wide Web at www.sjgames.com for an online catalog, errata, updates, and much more. We also have CompuServe and AOL conferences. *GURPS* has its own Usenet group, too: rec.games.frp.gurps.

GURPSnet. This e-mail list hosts much of the online discussion of *GURPS*. To join, mail majordomo@io.com with "subscribe GURPSnet-L" in the message body, or point your web browser to gurpsnet.sjgames.com/.

The *GURPS Traveller Starports* web page is at www.sjgames.com/gurps/traveller/starports.

Page References

Any page reference that begins with a B refers to *GURPS Basic Set, Third Edition Revised*; e.g., p. B144 refers to page 144 of *Basic Set*. CI refers to *Compendium I*, CII to *Compendium II*, GT to *Traveller, Second Edition*, S to *Space, Third Edition*, T:BC to *Traveller Behind the Claw*, T:FT to *Traveller Far Trader*, and VE to *Vehicles, Second Edition*. For a full list of abbreviations, see p. CI181 or the updated list at www.sjgames.com/gurps/abbrevs.html.

Introduction

Starports have been a major part of *Traveller* since day one. Like the seaports and airports of earlier eras, they provide a place for starships to replenish expendable stores, to refuel, and to pump out the used atmosphere before it actually gets thick enough to impede walking. Starports provide a starting (and ending) point for most adventures, a convenient place for the powers-that-be to interact/aid/impede the PCs and a place to fence the loot.

In the course of actual roleplaying, the metal and concrete and Contragravity forklifts of a starport are less important than the paradigm it represents. Is it a gleaming, high-tech port of entry (doubtless hiding a high-level conspiracy somewhere)? Or a dusty frontier whistlestop (somehow they're always dusty, even in vacuum)? Or a maze of subsurface tunnels within a murderously hostile world, dripping with grease and condensation? The blueprints and the bond issues may drive the construction, and the economic base may determine the level of maintenance, but the paradigm sets the story. We have included paradigms as well as floorplans.

So what else is in this ode to scheduled maintenance and cargo labeling? Well, there's an explanation of why planetary customs officers and Imperial customs officers don't share pizzas, and who puts out a fire on the extralixity line, and what "floaters" are. Also: Installing plumbing for non-Human transients (without diagrams - we have to send this thing through the mail). A short course in military seizure of your friendly neighborhood port facility. What hotel room the typical space-traveling grifter prefers . . . and where to get the best beer and burger in charted space. Because it's tough to save the universe on an empty stomach.

— John M. Ford

ABOUT THE AUTHORS

John M. Ford is a well-known science-fiction author, gamer, and *Traveller* fan of many years. John's works include (but are not limited to) *The Dragon Waiting*, *Fugue State*, *The Final Reflection*, *How Much for Just the Planet?* and *Yellow Clearance Black Box Blues*. He lives in Minneapolis, where the fabric of reality has been worn thin in numerous places.

James Maliszewski grew up in Baltimore, MD, where he learned to love the Orioles, to hate the Yankees, and to spend far too much time in one of several fantasy worlds. When he grew up (or so it is rumored), he became a grad student in philosophy at the University of Toronto. While he hasn't yet picked up a doctorate for his troubles, he has acquired a wife, a child, and some small success as a writer for the roleplaying and computer games industry. He currently lives in Scarborough, Ontario, Canada.

ABOUT THE LINE EDITOR

Loren Wiseman was one of the founding partners of GDW, Inc., original publishers of *Traveller*, and spent more than 20 years there as a game designer, developer, typesetter, and editor. After GDW closed, Loren freelanced for a time, and then came to SJ Games, where he is *Traveller* line editor and expert-in-residence.

JOURNAL OF THE TRAVELLERS' AID SOCIETY

The long-running *Traveller* magazine is now online at jtas.sjgames.com, edited by Loren Wiseman. It supports all versions of *Traveller* with news, articles, discussion areas, and reviews. Subscriptions are \$15/year for 52 weekly updates and full access to archives.

The *Traveller News Service* is updated weekly, chronicling the life and times of the Imperium, and is viewable free at www.sjgames.com/gurps/traveller/news.html.

The SJ Games *Traveller* page (www.sjgames.com/traveller/) links to the *Traveller* Web Ring, which includes most of the major *Traveller*-oriented websites. For information on subscribing to the *Traveller* mailing list, contact traveller-owner@mpgn.com.

SESTINA: MIDNIGHT STATIONS

*This platform is cold, but at least it is quiet.
A great hulking freighter sits squat on the field:
We'll patch and replat her – "You're plumbers!" they'll say,
We'll fuel and recharge and they'll gripe at the prices,
We'll air out the berths and they'll turn the crew over,
She'll fire up her engines and be on her way.*

*The crews of the starships are funny that way.
When they're not on a deck they do not like things quiet.
They'll turn first a glass, then a whole tavern over,
Get thrown in the lockup, confined to the field,
And then, in a rush of filled forms and paid prices,
They exit, all quickly, with nothing to say.*

*I wonder some days what I want them to say.
"We're terribly sorry to leave you this way"?
"The life here is swell, but we can't stand the prices"?
"It must drive you mad, all this space, all this quiet,
"This lack of hull metal enclosing your field –"
"We'd just like to thank you for having us over."*

*There's something between us we cannot get over,
Though who dug the pitfall nobody can say.
The ship crews are here to bring goods to the field,
The port crews are here to keep ships underway;
The same drinks and tumbles keep all our souls quiet,
And still here's this war, fought at enterprise prices.*

*But skyhigh or earthbound, we each pay our prices,
Wear scars of regret we'll stroke over and over,
That we're not where they are. And when all is quiet,
You'll see things you might not have thought to see – say,
A handler counts stars, as if charting his way,
Or a pilot pretending he's planting a field,*

*When one of us dies – well, to each his own field.
A body on shipboard must earn cargo prices.
So they go to vacuum, are launched on their way,
And we go to landing-grounds, soil spaded over,
Some till and some sow. What else is there to say?
So that's what they mean, "how can you bear the quiet."*

*The crew's on the field. We'll look each other over,
We'll argue the prices, find hard things to say,
They'll go on their way. We'll go back to the quiet.*

– JOHN M. FORD

Outposts of the Imperium

Trade, Starports, and Starships

This book describes many activities and processes already portrayed in *GURPS Traveller Far Trader* - but from the perspective of the starport support services rather than the spacefaring merchants who rely upon them.

Readers interested in more information on interstellar commerce will find it in *Far Trader*. That book focuses on the view from a ship's hold, covering the various expenses, administrative entanglements, legal restrictions, and other hazards that await free traders and megacorporate megafreighters across the Imperium. *Free Trader* touches on starport operations for the same reason that this book touches on merchant operations - because the topics coincide quite often. Readers of this book interested in the perspective from across the parts counter or visa desk will find it there.

Both books also will share topics with the upcoming *Starships* - the last of three planned *GURPS Traveller* books dealing primarily with star travel. That book will detail the operation of a ship. These deck and engineering functions will, of course, continue to overlap with the cargo-hold activities of *Far Trader* and port functions of *Starports*.

Every effort has been, and will be, made to minimize the information shared among the three volumes, but a minimal amount of repetition will be unavoidable so that each can thoroughly cover its topic.

The Imperium operates a starport on each of its 11,000 worlds, as well as many client states and a few hostile worlds. These ports anchor the web of trade that provides both the reason for the Imperium and the means by which it exists.

As vital as that function is, Starports play another role of arguably equal importance. Starports are where the Imperium and each of its self-governing worlds collide and collude. They usually represent the sole Imperial outpost on a world - and the world's sole lifeline to the stars. Given their critical function for both governments, Imperial Starports transcend their mundane role as transit station. In most citizens' eyes, they stand as *the* symbol of the Imperial relationship. The details of this symbolism vary in accordance with the nature of each world's view of the Imperium ...

Imperial Starports exist to provide fair and equitable support of interstellar trade. This they do, with an astonishing degree of uniformity across the parsecs. At the same time, the intense Imperial, local government, and public focus on each port transforms it into a unique culture - a place unlike any other on the world, perhaps unlike any other in all of the Imperium. A star traveler can expect to find a fixed set of ship services at a fixed set of prices at a given Imperial starport. In every other venue - atmosphere, attitudes, attractions - he should expect the unexpected. Beyond the landing pads and control towers, no two Starports are alike.

THE IMPERIAL STARPORT AUTHORITY

The Imperium uses a number of agencies to indirectly govern its vast reaches. None of these - not even the Imperial Navy in all its dreadnought glory - can claim greater importance than the Imperial Starport Authority.

The SPA manages all Imperial public Starports, which is to say, the port facilities for well over 97% of trade and travel in Imperial space. The job requires equal genius in administration, diplomacy, and crisis response.

HISTORY

In its first few years, the Third Imperium almost solely built exploratory and military bases, under the command of the Imperial Scout Service or Navy respectively. The need for commercial ports was recognized from the beginning; it did not take long to realize that the Imperium would have to take on this responsibility for itself to ensure their quality. The scouts' Bases Division established a Civilian Starports Office to establish standards for taking over existing ports, formalize procedures for building new ones, and prioritize new-construction and upgrade needs.

In 422, after the completion of the First Survey, a decree of Emperor Martin III separated this office from the Scouts and established it as the Imperial Starport Authority. It is part of the Imperial Ministry of Commerce, though its chief executive (see p. 17) answers directly to the Emperor.

AUTHORITY

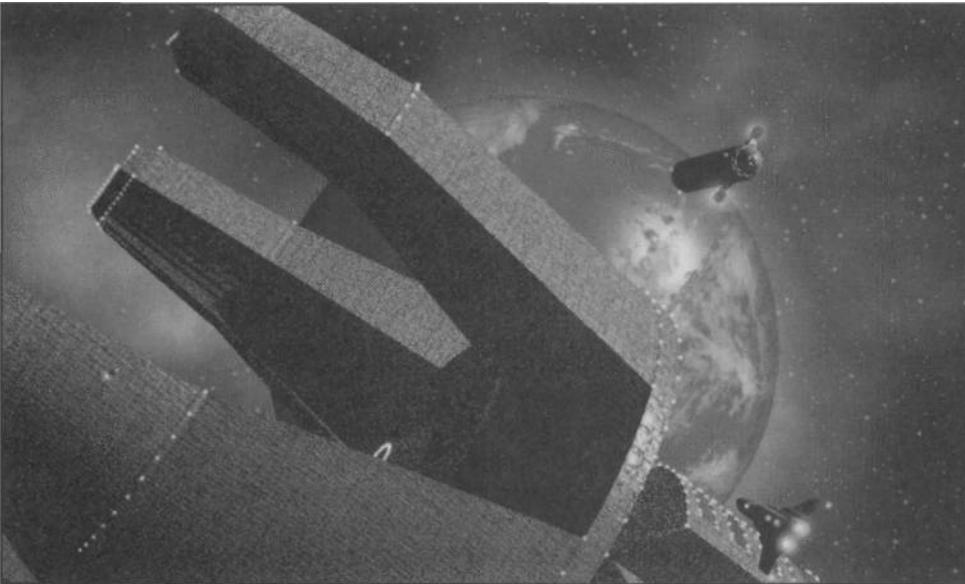
On paper, the SPA - as represented by each port's director - merely manages the starport. The SPA port, especially the shipyard, often hosts permanent scout or naval operations, but these remain under scout or naval control. (The entire port often falls under naval control during a crisis.) The port usually houses Imperial diplomatic offices, but the port personnel have no policymaking duties.

In practice, each port's director wields enormous influence on local relations. A saying goes that the navy can always point a gun to get what it wants, the scouts monopolize the euphoria of first contact then move along, the diplomats hammer out definitions of the *ideal* . . . but it's the SPA personnel that roll up their sleeves and make Imperial-member world relations work on a daily basis. However much truth underlies that statement, rare is the admiral, sector scout leader, or ambassador who does not consult with the local port director on matters of importance.

All Imperial Starports are Imperial property, regardless of the allegiance of the system they occupy. This concept is known as extraterritoriality (usually shortened to extrality, or just XT). Within the port's boundaries - referred to as the XT line - local law and political authority are not in force. XT issues and relations with the host world will be discussed in Chapter 3, *Planetary Relations*.

ALLIANCES

A side effect of the SPA's long association with the Imperial Scout Service is that scouts often consider the SPA an "auxiliary" of IISS. Some SPA personnel resent this (some laugh it off as just another example of scouts' outlandish chutzpah), but it means that scouts are willing to bend their already flexible rules to assist the SPA. Scouts who become unfit for active service through age or injury sometimes move to a job with the SPA; this is considered less of a "step down" than the private sector. Such ex-scouts are given the benefit of their service seniority on application with the SPA.



STARPORTS AND IMPERIAL POLICY

The SPA facilitates interstellar trade by reducing its costs nearly to the point of subsidizing it, and by enforcing Imperial policy on fair trade and ship safety. This careful balance of carrot and stick means that no alternative starship service has been able to compete with the SPA, though a few worlds and megacorporations still try.

The Imperium levies no routine tariffs on star trade, though it reserves the right. Occasionally a crisis will result in a temporary tax, though more often within a given subsector, sector, or domain than Imperium-wide. The SPA does collect all local tariffs from interstellar commerce prior to handing them over to the host government — or not handing them over. A primary Imperial intrusion into local policy is that all worlds hosting an Imperial starport must practice fair trade. It formally prohibits favoritism in planetary tariffs and trade practices *in regard to goods shipped via Imperial Starports*. The Imperium has not yet claimed the authority to prohibit these practices altogether, the primary reason that a few local or corporate-owned ports still exist.

Seller Beware

From a profit-and-loss perspective, Imperial policy pampers interstellar merchants. Local Starports and the occasional megacorporate starport often drive home that fact, with huge tariffs on products from star system X, corporation Y, or random factor Z. In fact, some observers suggest that the Imperium tolerates unfair trade outside its Starports because the occasional rogue local port will advertise the relative merits of the SPA!

Many merchant ships travel for years without ever visiting a non-Imperial port, enjoying the SPA-enforced lack of transshipping tariffs or other friction along the way. While many local starports maintain a similar free-trade zone - to remain competitive with Imperial services - others expressly exist to void free-trade practices. These official measures can include heavy and non-uniform tariffs, close inspection of end-user certificates, safety inspections, etc. - even if the cargo isn't intended for the local market!

Even if the port claims to practice free trade, starship crews landing at them may be in for some surprises. If they carry cargo from a source that the local government would like to cripple or demand concessions from, any number of unofficial inconveniences may await. Ships carrying cargo from target worlds would always be last in line for fueling and freight-handling. Exports of fresh produce would be removed from their refrigerated containers for "inspection" and allowed to wilt. Rough handling and shoddy transportation would damage other goods. Personnel might be subjected to onerous and repeated medical inspections. Any number of small, informal barriers might be placed in the path of free trade by a hostile, locally controlled port authority.

Private ports can be even more difficult to deal with, since their officials usually have a much more limited set of priorities. A private port run by a megacorporation not only might refuse goods from a rival firm, it might refuse any service to a ship carrying those goods! Generally, wise merchant captains avoid private ports unless doing business invited by the port's owners.

Poor treatment of this sort isn't universal outside of Imperial Starports. While some worlds with Imperial ports were reluctant to give up the power to so afflict their neighbors, most were more relieved to be protected from such treatment by others. They gladly protect this privilege by maneuvering commerce around protectionist neighbors. The extent of the Imperial starport network usually makes this countermeasure easy to perform, so only the most shortsighted or advantageously located local governments practice unfair trade.

The SPA Emblem

The Starport Authority emblem can be found on all official SPA stationery, buildings, vehicles, and uniforms.

The emblem consists of a large terrestrial world on which is placed the cartographic symbol for a starport: a device resembling crosshairs made up of a circle and a pair of crossed lines. Encircling the planet is a stylized starship with a thruster trail to indicate that it is launching.

This emblem has been in continuous use since the SPA was founded by Imperial decree in 422.



Childhood Memories

"I doubt that anyone forgets their first visit to a starport. It's usually a magical event: strange people rushing to and fro, new scents everywhere, cargo containers on lifts, blaring announcements, and starships - so many starships. There's no better way to get a sense of the immensity and diversity of space than to watch the starships at a port.

"I was always impressed by the Vargr merchant ships that I saw come to the station. I guess that's why I spent some time traveling in the Extents as a youth, even though my father never approved of my choice. Yet, I think it gave me some perspective that has served me well since then.

"My recommendation to anyone thinking of entering the service of the Imperium is quite simple: Spend some time at a starport. Trust me, you'll learn more in a few hours of observation there than you could in years of formal study. You'll see why this Imperium we have is a thing worth saving, a thing worth protecting. Nothing, nothing can be allowed to threaten that."

*-from an interview with
Archduke Brzk, conducted by the
Journal of the Travellers' Aid
Society, 156-1119.*

Worlds cannot interfere *at all* with goods transshipping (i.e., just passing through) their Imperial starport. In an important extension of extrality, the goods never legally leave Imperial territory.

Host planets can impose uniform tariffs on goods destined for their world, and most do, ranging from 0% to more than 200% of market value (see p. T:FT13). The SPA monitors these tariffs, and takes an aggressive stance in adjudicating them. A world with an Imperial starport will be wasting its time in attempting to impose a special tariff on a product for which one of its rivals is a leading exporter - no matter how legitimate the grounds for the tariff. The *appearance* of Imperial fairness usually outweighs all other considerations.

This longstanding devotion to fair trade helped to sell thousands of worlds on the SPA system, and through it, on the Imperium itself. Despite any complaining, it still does. Many steadfast member worlds would not display nearly as much devotion without the immense, tangible benefits of hosting an Imperial starport. (This rarely protects the starport from being the target of displeasure at other Imperial policies, though.)

Therefore, a starport provides the Imperium a method by which to offer consistent commercial-starship service, regulate star-travel for safety, set trade policy, monitor local compliance with said policy, and levy taxes. Weighed against these many advantages are the extremely high cost of the port and its personnel.



SPA STARPORTS

Over 97% of the Starports within the Imperium and over 40% of those found on nearby non-member worlds are Imperial ports. The Starport Authority grades all of its facilities as falling into one of five classes. (For convenience, the Travellers' Aid Society applies the same grading to non-SPA Starports when describing their service levels.)

This section expands on the evolution of ports from Class I to Class V. More complete details of port features appear in Chapter 5, *Starship Design*.

CLASS I

The Imperium usually creates a Class I starport by landing two modular cutters. One carries earth-moving and surfacing equipment, and a work crew. It clears and levels space for several small starships to set down, with at least one area large enough for a starship of up to about 1,000 displacement tons to put down without undue risk. If the Starport Authority has deemed it necessary, the crew will also string metal fencing around the port, defining an extrality line. The other cutter carries an office module (see p. 103), which becomes the new port's headquarters building - in most cases, its *only* building. Often the office module - and any staff - are omitted.

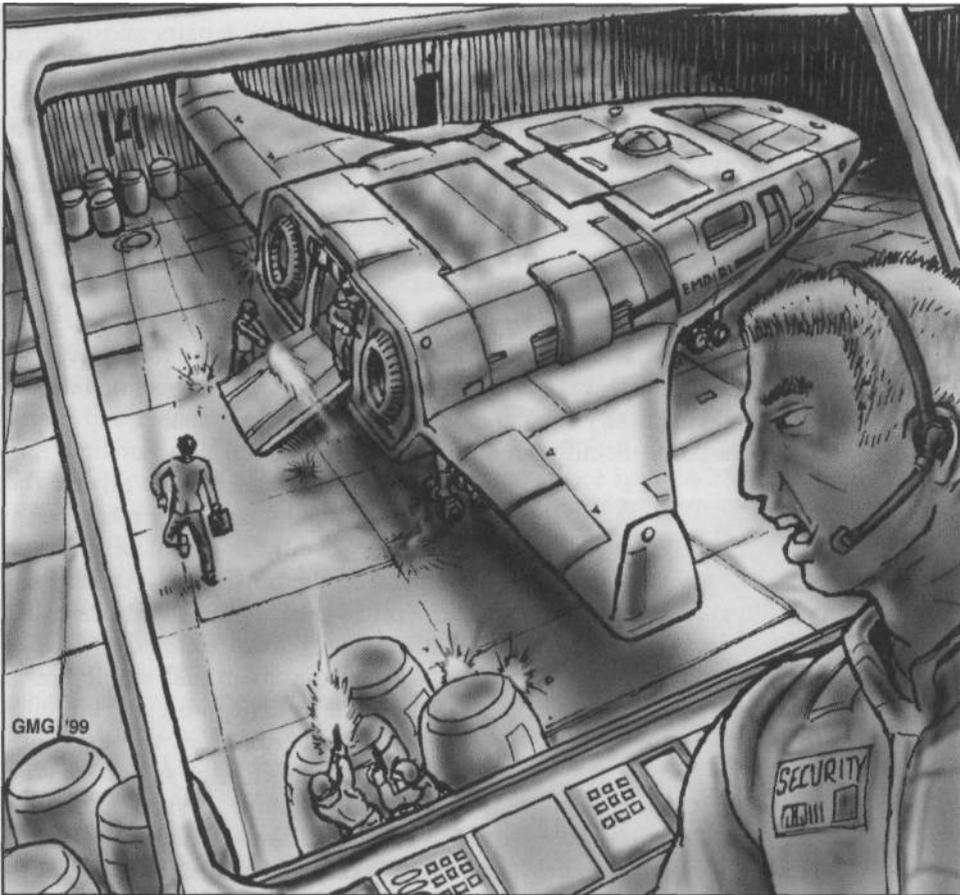
The office (if present) operates the landing lights and approach beacon, handles the standard paperwork on transient vessels, stores cargo of Imperial concern (mail, mostly), and provides a place for passengers to wait out of the rain or vacuum.

There are no facilities for fueling or routine servicing of ships. If convenient, the port will be located near a body of water from which properly equipped vessels may draw unrefined fuel. Some emergency parts and supplies are stocked. If there have been several emergency touchdowns recently, the supply may be depleted. This means the crew will simply have to send a message (provided another ship is outbound to carry the message) and wait for the supply ship.

The basic P/I has no surfaced or covered berths or hangars; some examples must temporarily shut down operations after a hard rain. Local residents may lease long-term berthing space, but must prepare and maintain any improvements themselves.

There are no retail stores or food service, though the general manager (the person staffing the office) may share his coffee. Directions will be provided to the nearest habitation, along with advice on local customs, law levels, and anything else likely to get the visitor in trouble.

A few P/Is may have more elaborate "terminal" facilities, such as one might find at local grass-field airports: a small general store, a snack bar. The existence of such ports is often more a matter of planetary pride than commerce. Many of them sport elaborate signs reading "Welcome to Old Hickory Interstellar Starport" or the equivalent, and an "artist's conception" of what the local populace would like the facility to look like in the undetermined future.



CLASS II

A Class II port will have 10 to 30 surfaced landing pads, and perhaps a landing strip for small craft incapable of vertical takeoff and landing. At least a few of the landing areas will feature covered hangars, more if the weather is generally hostile. Landing guidance is more sophisticated, and incorporates at least a minimal satellite network.

Mechanical service is available, but limited to minor repairs, standard spare parts, and essential ship's stores. Unrefined fuel is for sale. There will usually be no more than one service crewman on duty at any time, so ship crews in a hurry may need to buy parts and perform their own labor.

The level of passenger and cargo facilities is determined by traffic flow - smaller ports such as this often cater almost exclusively to one type of traffic or the other. In general, there will be no more than one or two cargo-handling crews on duty; a local firm sending or receiving a large shipment may need to hire temporary crews to expedite the transfer. This may include the off-duty local crews, idle starship crews, or idle cargo handlers from one of the few companies that will maintain a permanent presence at a port of this size.

Most Class II ports see only a handful of freighter passengers at a time, and have no special services for them beyond a waiting room. Where there is something to draw larger groups of travelers - a safari world, say, or an industrial plant that hosts visiting executives - amenities for them are usually provided by the host tour operator or corporation, and are not necessarily available to other visitors.

Starport Economics

Building and operating a major port is expensive. Slidewalks, grav shuttles, satellites . . . everything costs money. The income to pay these costs primarily comes from the sources below.

A major Imperial port does well to break even - that is, bring in income at least equal to operating expenses and debt service - after 20 years of operation. The average is more like 25-30 years, and some major ports never break even. Generally, larger ports with their larger traffic flow generate larger revenues, but some out-of-the-way minor ports end up doing quite nicely as the only option around. Class I ports very rarely make a profit.

Appropriations and Subsidies

Imperial Starports receive their "core" operating funds from the SPA itself. (These funds come from Imperial taxes, which benefit from the increased trade generated by the Imperial starport system, which explains why the Imperium eagerly operates Starports "at a loss.") Other Imperial services (notably the navy) may grant appropriations or subsidies on an individual or even system wide basis. Local governments also can subsidize Imperial ports.

Ship-Servicing Charges

The Imperium operates Starports as a public service, but not a free one. Nearly every service provided costs something. In most cases, ports can count on a steady flow of funds from such service charges.

Information on starship maintenance costs can be found on pp. T:FT74-76, Starport berthing fees, handling fees, and usage costs are found on p. T:FT66.

Shipyards Usage

Major Imperial Starports possess shipyards. These produce huge revenue streams, but the shipyard was a huge expense to begin with. Generally, Class IV ports - limited to the non-starship trade - do well to service shipyard debt with their revenues. Class V shipyards, with a larger customer base, often produce tidy profits. Shipyards are open to private interests, unless under emergency naval control.

Concessions

A concession is a starport business operated by outside interests. Many of the "non-essential" services of a port will be fanned out to private businesses and entrepreneurs (see pp. 21-22). An Imperial starport will charge rent for the space a business occupies. This will usually be very expensive, even in comparison to prime, urban real estate elsewhere on the planet.

Glossary

A few specialized terms used in this book may not be self-explanatory at first glance:

Ground Element. The part of a port that sits on (sometimes under) a planetary surface. Also known as the downport, down, downside, or dirtside (the last slightly insulting, used by those who spend most of their time in space).

LASH. Lighter Aboard Ship, a type of cargo-hauling scheme. A lighter is a non-starship (usually of fairly large size) used to transport cargo to and from an unstreamlined starship and a world's surface. Some starships carry the laden lighters between worlds, allowing them to rapidly discharge and take on loads.

Local. Native to the system served by the starport. The term is most often used on non-Imperial worlds, where it is important to distinguish between port employees who are Imperial citizens (even though they may live outside the port's boundaries) and those who are under the planetary government.

Major Port. A Class IV or V port.

Minor Port. A Class II or III port. (As an example that the SPA suffers from bureaucratic logic as much as other agencies, Class I ports are - obviously - considered ports for the purposes of the numeric classification system, but not for the more general purposes of the major/minor designations. The average SPA administrator finds this completely natural. Countless attempts by starship crew members to explain the inconsistency have been greeted with nothing more than bewilderment.)

Orbital Element. Part of a port in orbit above a planet, usually stationary above the ground element. Also called a highport, highside, high, or sometimes over.

Startown. A community that grows up next to most Starports, usually just across the XT line, to serve the particular needs of starport regulars and visiting starship crews.

Tariff. A tax levied on exports or, more commonly, imports. Starship captains tend to use the word in a more broad sense, applying it to all sorts of ship-servicing charges (as seen on p. T:FT66). Imperial law - and this book - only use the word to describe taxes imposed on trade goods.

Traffic Bias. Designates whether the port is oriented toward cargo handling or passenger service. Most Starports are strongly biased toward cargo. The exceptions usually service resort worlds whose principal business is tourism.

CLASS III

The P/III starts to look like what people think of as a starport. It has 50 to 100 landing pads, most of them equipped with a proper berth, and possibly one runway if on a world with atmosphere. Its traffic control can handle multiple takeoffs and landings at once.

About half of P/IIIs have an orbital element, connected by shuttles to the ground, allowing service to unstreamlined ships that do not carry their own lighters.

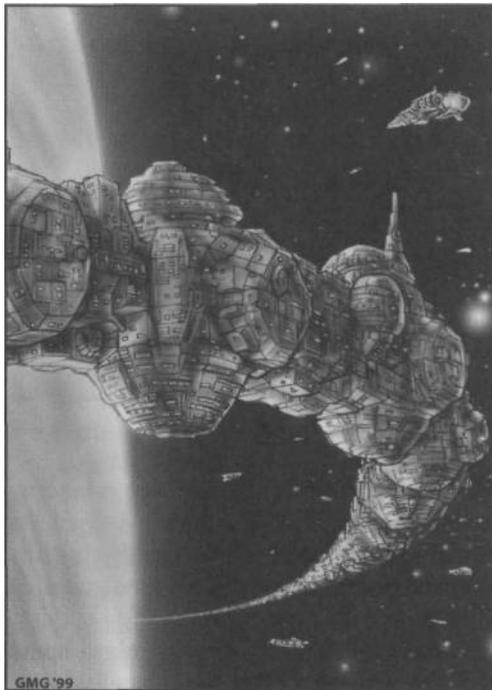
Unrefined fuel and all conventional ship's stores are available, and many will offer refined fuel, though tankage may be limited. All minor repairs and maintenance can be performed without undue delays.

Handling of ordinary container cargo is efficient, though goods requiring very special handling may slow the routine (there will be a separate hazardous-materials facility only if the port regularly sees large quantities of the goods, as at a port serving an ordnance plant).

Modest but adequate shopping and restaurants, and usually some kind of entertainment, will be available for passengers and crews.

CLASS IV

The P/IV usually offers a highport, and a full suite of services to the average small starship or passenger. A variety of shopping, overnight accommodations, entertainment, and food is usually available onsite. Full ship maintenance and cargo-handling is offered, usually including a shipyard that can build non-starships (but not starships) and handle all but the largest structural repairs or rebuilds.



The specific levels of service can depend on the traffic bias. An industrial world's port with a small passenger volume will have extensive cargo-handling equipment and ample crews on duty (with extras on call), but only modest space devoted to passenger comfort (though that space may be very comfortable, to suit executives visiting on business). A resort world is more likely to have extensive shopping, restaurant, and leisure areas, with commercial cargo handled to one side (if no less efficiently).

CLASS V

The P/V is the great crossroads of the spaceways, processing thousands of passengers and cargo containers every day, usually with a full commercial shipyard (as well as "Honest Khugi's E-Z Credit Used Starships" or the equivalent among the hundreds of private operations renting space at both the highport and downport). Hundreds of travelers find a temporary home here, either waiting for an interstellar connection, a shipboard job, or just a working passage to Somewhere Else. This is a natural place for groups of would-be adventurers to meet and combine forces (even, for the classically minded, in the traditional "tavern brawl that ends in lifelong friendship").

The transient accommodations are more varied at a Class V than any smaller port: plenty of luxury hotel rooms, but also more cheap hostel space (see pp. 107-108). The same is true of shopping; there are of course more high-end retailers, but also more, and more varied, goods at the budget shops. It is the shopkeepers' job, after all, to separate travelers from their cash (usually by fair enough means), and the port management, which draws much of its income from concessions, has no wish to discourage them.

SCOUT AND NAVAL STARPORTS

While most star travelers (and player characters) will exclusively utilize the services of SPA commercial Starports, the Starport Authority isn't the only Imperial agency building Starports.

Both the Imperial Navy and the Imperial Interstellar Scout Service maintain a variety of bases. These are usually distinct from the SPA starport. The scouts almost always place their bases on the main world, and usually the navy does, too, since it must coordinate extensively with the SPA port in its shared usage of the commercial shipyard. Sometimes the navy will place its bases on a remote world in a given star system, away from prying eyes.

In some respects, the presence of a scout or military starport in a system is as important to the local economy as is the commercial starport. After all, scouts and sailors at the port will spend some of their off-duty hours (and money) in local establishments.

There is also some pride associated with having a naval base. Like the starport itself, a military base is a symbol of Imperial power. Unlike the starport, it's also a sign of Imperial favor.

Scout and naval Starports are, for the most part, self-sufficient entities. That is, the base commander governs his port in accordance with his service's protocols rather than the SPA's. There is, of course, plenty of interaction between the two ports. The commercial port's military liaison office (pp. 24-25) exists for this very reason.

The only thing for which a military starport depends on a commercial one is its construction facilities. As odd as it may seem, military Starports generally do not have their own shipyards. The Imperium considers the duplication of such facilities to be wasteful - and in times of peace military construction can be slotted into otherwise unfilled capacity when civilian business is down. Of course, in times of war or other emergency, the military base commander may take charge of the commercial shipyard. This occurred with some frequency during the Frontier Wars.

Navy and scout vessels in a system lacking their own installations can take advantage of SPA services, of course. In such systems, these services sometimes will maintain a small, permanent presence at the SPA installation. Even when the SPA hosts these sites, their personnel operate independently of the port director's authority unless specifically assigned there to garrison the commercial starport (see pp. 24-25).

The several types of scout and naval base are described in more detail below, as well as in sidebars on pp. 66-68.

SCOUT BASE

Scout bases provide a place to fuel and maintain exploratory and communications vessels, to disseminate orders to individual scouts, and to allow those scouts who are so inclined to have a little human contact and time off a deck.

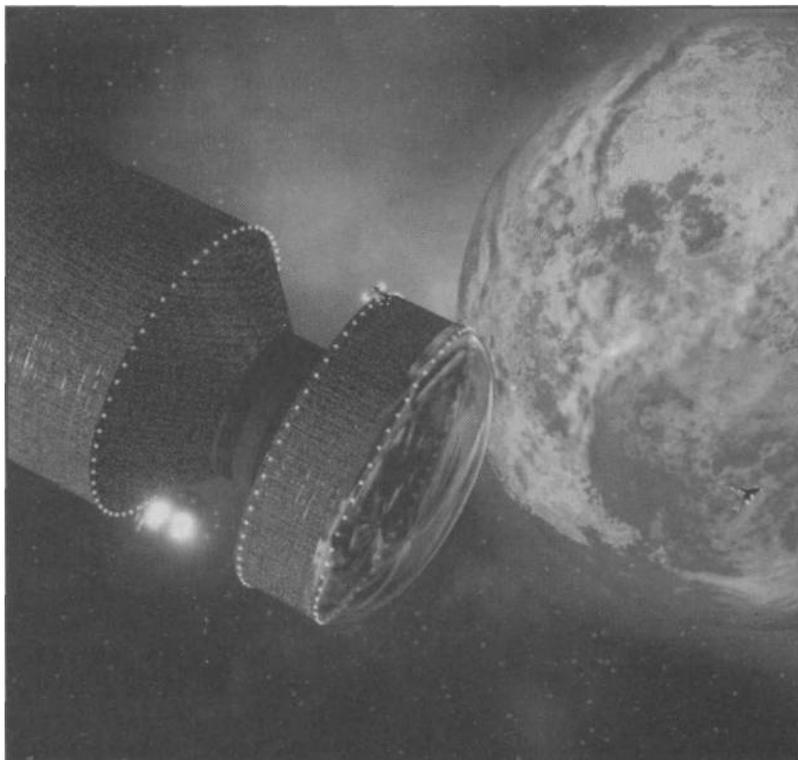
Bases are initially assembled from modules, as for a Class I commercial port. This both speeds construction and makes it simple to dismantle and move a base that is no longer needed. A long-established scout base will usually have conventional buildings added. Because scouts spend much time "at the sharp end," and often have to limp back to a station with damaged ships, all scout bases have at least a minimal orbital element, with supplies and a shelter to house crews until a shuttle can reach them.

Traffic Analysis

A great deal of useful intelligence can be gained simply from watching the movements of ships. If one can track the origin, quantity, and destination of cargo containers, it is often possible to determine what's inside the boxes, and from that make a good guess as to the regional economic situation - as well as spot clandestine military buildups and the movement of hijacked or contraband cargo. Traffic analysis is the main reason the location of a Sector Naval Depot (see p. 13) cannot be effectively hidden. There's just too much unmistakable movement to and from such a place, even if no spy ever visits the system itself.

Traffic analysis is something of an art form, even with computers to help sort through the raw data, but its existence and capabilities are well enough known. Anyone with an interest to protect may try to confuse observers with dummy ship or cargo movements.

Adventurers with their own ship may be hired at premium rates to haul worthless cargo, to distract hijackers from the real goods (or vice versa, and they may not be told whether they've got the real goods or not). Retired scouts given possession of a scout/courier are sometimes called on to play decoy. This may involve taking a roundabout route, or pretending to be a whole series of ships by changing registration and transponder numbers during jump - which is legal if the service orders you to do it.



Military Action

Seizure of the starport is a key element in planetary invasions. Without operational port facilities, the large numbers of ground troops and equipment necessary to take and hold the world cannot be landed. The defenders understand this equally well.

Operational Plan

"To tell the truth, there ain't no good way to take a battery."

- attributed to
Nathan Bedford Forrest

Navy and marine training always includes classroom, simulator, and field exercises on assaulting defended Starports. It is understood that executing a textbook plan without making allowances for the local situation is a formula for disaster, but there *are* some generally applicable principles. The operation proceeds in the following stages:

- Stage 1: Enter system space. Surprise is invaluable. Complete surprise is unlikely to be possible unless the assault is launched by vessels already in orbital space, without a declaration of war; this is against Imperial policy, but some governments may not be so scrupulous. Otherwise, ships will jump in at 100 diameters and make all speed for their designated targets: troopships and their escorts to the port (and any other planetary targets); a battlegroup of fast, stealthy ships to take out tracking stations and orbital weapons; all other forces to deal with in-system vessels - which leads to Stage 2.

- Stage 2: Establish space superiority. This does not necessarily mean eliminating every hostile vessel or ground defense (though that is certainly desirable, if possible), but rather removing enough defenders to make it possible for the subsequent stages of invasion to proceed without unacceptable losses. This can be done by direct attack (destroying the opposition), containment (establishing a defensive sphere around the area of operations that enemy vessels cannot enter), or diversion (drawing the fleet away from the area of operations with a feint attack).

- Stage 3: Control orbital element (if any). The navy considers this stage a part of establishing nearspace control (and therefore its responsibility) while the marines think of it as a boarding action (and rightfully theirs). The actual balance of forces (and therefore the tactics used) depends partly on what forces are available for the operation, and partly on the persuasiveness of the naval and marine commanders involved.

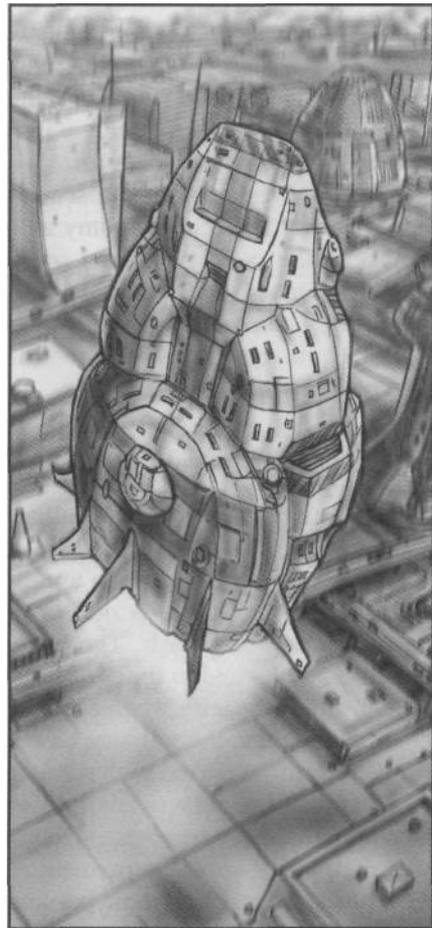
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XBOAT STATION

The communications system of the Third Imperium is serviced by express boats (p. GT31). An Xboat station exists primarily to sort the messages brought by Xboats to a given system. In addition, the station keeps track of the flights of incoming and outgoing express boats carrying messages for the next link in the chain.

Xboat stations are usually located at the edge of a star system, well away from the gravity wells of worlds and stars. They always possess powerful communications equipment, both radio and tight-beam, for receiving and transmitting hundreds of com-muniques simultaneously. This makes any Xboat station among the *very* first targets when a system is invaded, adding to the more general priorities described in the sidebar on this page.

Xboat stations always maintain a local office on the main world of the system - often at the SPA starport, but sometimes located in a major metropolitan area if the commercial starport isn't also adjacent to primary population centers. This office handles receipt of messages, pursuit of message recipients that can't be contacted via normal channels, etc. Xboat stations play a vital role in keeping a world connected to the larger world of the Imperium, making these ground facilities the favorites of terrorist or partisan attacks. The scouts do not discuss standard Xboat-station security, but it is believed to be formidable for all its subtlety.



SCOUT WAY STATION

Way stations are larger and more extensive versions of the Xboat stations. Whereas an Xboat station serves primarily to receive and send messages to incoming and outgoing Xboats, a way station serves as a "garage" with the capacity to repair, overhaul, and refit express boats. Given the importance of each and every mission, the Imperial Scout Service tries to maintain zero technical failure in its Xboats through very thorough maintenance. Way stations are the source of all this maintenance.

Because of their extensive facilities, way stations can, in times of dire need, be converted for use by the Imperial Navy.

NAVAL BASE

Naval bases provide maintenance and support for anything from a single squadron to a sector fleet. Most Naval bases are constructed in systems with SPA starports. Since they share the commercial shipyard, SPA Starports in systems with naval bases usually will have naval starships on site at any given time, though most will be undergoing repairs or modifications and subsequently possess low readiness.

Naval bases are firmly focused upon their primary role: keeping their squadrons operational. All of them provide the following support to their ships: resupply of stores, ammunition, and fuel; maintenance and repair; training; and shore-based crew facilities. Naval bases that lack a nearby SPA port will often provide the shipyard services normally obtained from the SPA port.

Ships of 1,000 displacement tons or fewer may use the ground facilities of the SPA base. Larger ships will be processed at orbital installations.

Naval bases maintain their vessels as completely as do naval depots (below). The difference is that the range of spare parts and diagnostic equipment is more restricted at bases.

NAVAL DEPOT

An Imperial Naval Depot is an entire star system devoted to servicing the Imperial Fleet. One depot handles the needs of an entire sector. There are shipyards able to construct the largest capital ships, vast maintenance areas, and mountains of supplies and stores. A well-established depot will have its own industrial base, refining metals from local resources, making it almost entirely self-sufficient.

During peacetime, the depot is used for naval research and development. An entire planet may be used as an orbital firing range, another for full-scale Marine landing exercises.

Most depots also house a Naval Academy as well. Because of the size of the Imperium, it is impractical for cadets to travel all the way to Capital for education and training. Instead, cadets take up their studies and basic training at the nearest depot to their homeworld. Thus, when a naval officer speaks of his time at "*the academy*," he is not necessarily referring to the same place as his fellow officers when they speak of their own time at the academy. There are exceptions, particularly in the case of specialized training, such as intelligence. Not all depot academies are capable of teaching every advanced skill, and a cadet may well have to travel some distance to learn them.

Security is paramount. Peacetime troop strength ranges from several regiments to several divisions of Imperial Marines. A sensor network blankets the system. Parts of it are connected to automatic weapon platforms. There is no local population or commercial traffic to get in the way. To deal with unauthorized vessels that jump in "accidentally," the depot maintains a small port isolated from any sensitive areas to refuel them, perform emergency repairs if necessary, and get them on their way (after some serious questioning). It would of course be nice if the locations of naval depots were secret, but the abilities of traffic analysts (see sidebar, p. 11) make this a practical impossibility.

A depot can operate for several years without being supplied from outside, and with the resources of an entire system available, many station staff and their families spend their working lives there. Psychological factors, however, call for some rotation of personnel, and this is unavoidable for non-military personnel such as industrial tech reps and consultants.

Most non-Imperial worlds have no Imperial port, of course, and even a few client states turn down the service, usually to keep Imperial relations at "arm's length." These possess local Starports, usually administered in a fashion very similar to that used by the SPA. A few even elect to apply the principles of extrality. Locally administered Starports usually have a far closer relationship with the local government than those run by the SPA, for better or worse. This can sometimes lead to concerns for offworlders. The Travellers' Aid Society generally classifies such worlds as Amber Zones (p. GT19), given the potential hazards, legal and otherwise.

Starports vs. Spaceports

While all Imperial star systems have an SPA starport, most of them retain several locally operated bases for intrasystem traffic of cargo and passengers. These are called spaceports, to distinguish them from true Starports set up to handle traffic between the stars. Much of the traffic handled by the average spaceport is on its way to or from the system's starport. Spaceports can be operated by planetary governments or corporations; a populous star system can feature several examples under each kind of ownership, scattered across several worlds, moons, and asteroid belts.

Military Action

[Continued]

It is not always necessary to actually occupy the OE. It must be prevented from interfering with the attack - firing weapons, supplying defense ships, acting as an observation post/command center, etc. If these can be done by disabling weapons, keeping ships from using the docks, and jamming communications, the direct assault (or demand for surrender) can come later.

- Stage 4: Orbital drop on the downport. This often occurs simultaneously with Stage 3. Troops land at the port. These will mainly be marines, executing direct orbital insertion and/or shuttle landings. Some kind of interface lander is necessary to land vehicles. The spearhead elements will include a larger-than-usual proportion of engineers, and a number of ground controllers.

If possible, a special operations team may be inserted before the assault begins; their job is to sabotage defenses, disrupt communications, and in particular to delay the arrival of planetary reinforcements.

- Stage 5: Seize key targets. The essential task is to make the port usable by the main invasion forces. Ground-based defenses (anti-ship artillery) are neutralized either by destroying them or seizing their control centers. The landing pads are cleared, and a defensive perimeter established around them. Landing control is established. Ideally, this is done by seizing the tower in working order; if this is not possible, the controllers will set up portable equipment (dropped with them).

If resistance is light, and no major reinforcements are expected, a defense perimeter can be established around the port and main forces landed (next stage). The port does not have to be completely cleared of enemy forces before landing operations can begin. It doesn't matter how many personnel are in the warehouse area, even if they're armed combat troops, as long as they can be kept from crossing to the landing and control areas.

- Stage 6: Land follow-on units. These will be army forces in small craft (mainly shuttles and modular cutters, sometimes small starships). At this point the attackers should have overwhelming force at the starport, and any remaining resistance can be mopped up.

- Stage 7: Consolidation. The attackers secure prisoners, move casualties to hospitals, and establish defenses against any counterattack by off-port forces. At this point, the port is secured, and conventional ground operations can begin.

Starports of the Major Races

Starports operated outside the Imperium and maintained by non-Imperials may prove very different from those described throughout this book. Interested players and GMs are, of course, directed toward the *GURPS Traveller: Alien Races* volumes for specific information. Some general guidelines:

Aslan Starports

Aslan Starports are extraterritorial enclaves, operated by corporations leasing the land from a local clan. Any bases present are naval bases, under the control of that clan. The corporation may be associated with the clan owning the land. If this is the case, females from an allied, vassal, or overlord clan probably run it.

Planetary trade routes are handled in a similar manner, owned by corporations in turn owned by a clan. Destinations are always in clan lands, or on land likewise rented by a corporation. Permission is needed to enter each route and each destination, unless one is a member of the landholding clan. Clan representatives who can grant this permission are found at the starport and other major transportation hubs.

The Aslan naturally have no equivalent to the Starport Authority. Like the Hierate as a whole, Aslan Starports are owned and operated by the clans. In general, these Starports provide more facilities for vessels of the same clan than they do to outsiders. This can make traveling within Hierate space extremely frustrating and can be used as the basis for an adventure or two.

Hiver Starports

The Hivers consider Starports to be an important part of the benefits that their Federation bestows on its member worlds. Consequently, they have adopted a very Imperiumlike attitude toward the construction and maintenance of Starports. While there is no equivalent to the SPA, the Federation Development Agency does perform many of the SPA's functions in Hiver space.

For this reason, Hiver Starports have a level of consistency and efficiency that would make an Imperial feel very much at home. Nearly all of the information found in this book can be applied to Hiver starports. The only significant exception is that Hiver Starports will rarely have a rough-and-tumble Startown or anything similar in their vicinity.

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The distinction between a starport and a spaceport is not one that many travelers even consider, as they have few dealings with the latter. The Starport Authority, of course, has a very specific definition of each, and deals strictly in the primary starport for a star system.

Since 95% of a starship's support needs match those of a non-starship, a starship could seek service at a spaceport in a pinch, but the spaceport will not be able to provide extensive long-transit passenger service or any jump-drive repairs. Many do not maintain any reserves of hydrogen fuel, either.

Most Starports also handle some intrasystem traffic, but very little beyond that necessary to provide connections for interstellar passengers and goods. Usually, a starport will take on the spaceport services native to its immediate locale, since it makes little economic sense to build an adjacent spaceport to provide the service.

In a populous star system with widely scattered populations, the locally owned spaceports may handle a large percentage of the downport functions for interstellar traffic. The SPA's highport will process all cargo and passengers destined for the system, then shuttle and lighter service will transport them to a local spaceport rather than the SPA downport, if this would be more convenient. Likewise, much of the outbound traffic arriving at the highport will originate directly from local spaceports. This, too, will be processed through customs at the highport - though processing at the local spaceport often would prove more convenient, the SPA never performs such functions except within its XT line, and never extends the XT line to encompass non-Imperial ports.

This system creates an extra level of planetary relations for the SPA officials at the starport to maintain . . . often negative ones, since some cargo gets processed more efficiently at the SPA downport. For instance, LASH cargo can clear customs at the SPA downport, but may have to be unloaded and reloaded to clear customs at the highport if inbound from a local spaceport. Speculative cargo picked up at a spaceport must then be transported to the SPA downport or highport to clear customs prior to leaving the system. These issues often lead to charges that SPA practices favor its own services. The SPA simply maintains that it must control the physical and legal environment in which customs and related administration processes are conducted, and that those who can't tolerate the inherent inefficiencies should take direct advantage of the SPA downport.

The spaceport system can also create some adventure opportunities for merchant player characters. Even a starship captain who never travels to non-Imperial Starports will find himself every so often asked to relay a cargo directly to a local spaceport. At these local spaceports, the merchant crew can suffer all the aggravations and inconveniences that the SPA was set up to abolish . . .



IMPERIAL/LOCAL COMPETITION

The Imperium does establish ports on select non-Imperial worlds. Often this is the first step in enticing a world to join; at other times it results from Imperial intimidation. The Imperium will not take this step unless the local government is willing to shut down or hand over any existing starport, and it will also require a commitment that the government won't open its own starport afterward.

Over the course of decades attitudes can change, and non-Imperial worlds sometimes open their own Starports in direct competition with the Imperium's service. Similarly, some worlds had no say in gaining an Imperial starport; the port may have been established before the population attained self-government.

More rarely, Imperial worlds or a megacorporation based upon them feel a need to open a competitive site. Strangely enough, the provisions prohibiting most Imperial worlds from opening their own major Starports have largely expired, making this move legal on most worlds (if often unwise).

If these Starports are of similar size, and serve the same traffic flows, the Imperial port will usually have a long-term advantage, because it doesn't need to show profits. In turn, the local port authority can influence local traffic to use their port - governments usually push the patriotism button while megacorporations suggest to vendors that orders are filled "more smoothly" through their own port.

The Imperium will not allow a world that has agreed to host an Imperial starport to charge *lower* taxes or tariffs at a local competitor. (It may charge *higher* rates. That's its own business.) Since the SPA collects tax and tariff revenues before handing them over to the local government, it enforces this by simply lowering its own port's collections to match the terms at the local starport.

Unless very unusual circumstances exist, opening a competing starport will signify (or at least start) diplomatic tension between the Imperium and the host world or megacorporation. Still, the costs involved mandate that the SPA not simply close its doors when rivals appear. In addition, the opening of an Imperial starport establishes a sort of guarantee of quality of service when traveling through that system. The Starport Authority hesitates to void that guarantee without excellent cause.



There is no standard configuration for an Imperial Research Station. An agricultural test field, a jump-drive developmental lab, and an isolation hospital for ultra-infectious disease will obviously require different buildings and arrangements. Almost all such stations will have their own starport, but it will generally be a small affair, capable of handling only very small research vessels.

TEMPORARY STATIONS

These are constructed to study a short-term phenomenon, such as a period of unusual stellar activity, or to work on a particular "crash" project, usually secret. A temp station will be constructed from modular components (see pp. GT142-143 and p. 103), and may be designed for very rapid removal; in the case of a station studying an incipient supernova, this can be a prime consideration. When a planetary surface installation is not necessary, a temp station may consist of a standard *Kugashin-class* lab ship (p. GT145), sometimes with additional modules attached to the outer circumference for habitation, stores, and specialized laboratories.

A ground-based temp station will have landing pads of appropriate size for the largest vessel expected (usually of 500 displacement tons), a few berths, and spares and tools for any ships based at the station. There will usually be a supply of unrefined fuel, with a small refining plant to serve the station's power plant and transient ships.

Space-based stations have berthing connections for local vessels and one or two transients; in the case of the lab-ship station, one or more airlock/connector modules are fitted to the ship for this purpose.

Starports of the Major Races

[Continued]

K'kree Starports

K'kree Starports follow the standard *GURPS Traveller* classifications. Classes IV and V have extensive orbital facilities, always far larger than outsiders would expect. The ground facilities are widely dispersed, separated by residential areas, warehouses, and chandleries. The facilities available vary with starport class, but even the meanest include a hostel for traveling K'kree. These are intended as the last resort for the desperate.

The Two Thousand Worlds does have a quasi-governmental body called *Ghi'rurrikara Ikuug'ri* that oversees the construction and development of Starports within the Two Thousand Worlds. This body does little more than ensure that all K'kree Starports meet certain minimum standards, but it does this task quite well. The degree of uniform service among K'kree ports would surprise even an Imperial used to the oversight of the SPA.

Solomani Starports

The Solomani Confederation is a paradoxical place. It is at once more *and* less intrusive than the Third Imperium.

The Confederation government itself does not sponsor an organization like the SPA. This duty generally falls to the various governments that make up the Confederation. At the same time, the central Solomani government has issued a number of protocols that are expected to govern the operation of Starports throughout its space. The implementation of these protocols thus varies with the zeal of the local government for such matters.

Travel between member states of the Confederation always requires the use of passports, issued by SolSec. Trade between them likewise requires extensive permits not required in the Imperium. While the Confederation government claims that these measures are for security purposes, many dissidents charge that it is part of an ongoing effort to suppress the free movement of people and ideas.

Consequently, traveling through the Solomani Sphere can be an eye-opening experience. Many worlds have Starports to rival those of the Imperium. Others show a remarkable lack of concern for most of the issues that the SPA considers its mandate. Travelers to Solomani space are advised to stick to high-traffic routes for which general safety can be verified.

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Starports of the Major Races

[Continued]

Vargr Starports

The Vargr do not have an overall port authority. Private firms operate most commercial Vargr ports, contracting with the local government for the rights to operate. A world with a unified government will usually license exclusive rights; a balkanized world may have several competing facilities. Licensing governments usually demand some standards of quality and performance, but may not be able to obtain guarantees in all cases, or enforce those that they do obtain. As a result, Vargr ports tend to be built, operated, and maintained as inexpensively as is practical, to maximize the contractor's return.

Humans generally find Vargr ports uncomfortable. Ceilings tend to be low, seating awkward. The Vargr tolerance of ambient smells is greater than that of many other races. This, coupled with the proclivity of Vargr diets to consist largely of raw meat, can lead to environments somewhat more . . . ripe . . . than humans find tolerable.

Vargr ports do open and regular business with corsair bands. The corsairs tend to be well-mannered while in port, since the port's well-being directly impacts their own. Some of the more successful corsairs are shareholders in port operating companies, and are fully aware that there is no profit in shooting up one's own business. And some corsairs are owned by their home port!

Zhodani Starports

The Zhodani Consulate oversees the development of its worlds much more closely than the Imperium. Thus, several different agencies of the Consulate have responsibility over Starports. Each of them concentrates on a limited responsibility and coordinates with all of the others.

As in the Imperium, Zhodani Starports are operated for the benefit of the Consulate without a need for profit, but like the SPA they prefer their ports to be as self-sufficient as possible.

The typical Zhodani citizen views all non-Zhodani humans with suspicion. The Imperial visitor to a Zhodani starport may find himself openly followed by security personnel, especially if he insists upon wearing a psi helmet. ("Why use a screen unless you have something to hide?" is a common sentiment among the Zhodani.) Those detected plotting criminal acts will be detained and subjected to the relevant penalty under law.

The benefits of Zhodani Starports are that there is almost no crime, and visitors can count on fair prices and honest treatment - from Zhodani at least.

LONG-DURATION STATIONS

Some research stations are designed as permanent facilities, either for indefinite study projects, such as a planetary climatological survey covering many years, or as "hot labs" conducting ongoing research that cannot be pursued at a conventional laboratory, either for reasons of secrecy or risk to surrounding populations should Something Go Wrong.

While some of these stations are built with modular parts, most are conventional university-style buildings (some universities, of course, are fancier than others). A secret station will at least be camouflaged from casual sighting, and may be very seriously hidden with underground construction, retractable surface antennas, sensor masking, and so forth. Port facilities are much like those of the temporary station - these stations by definition do not get a lot of ship traffic.



PRIVATE STARPORTS

Privately owned Starports are those constructed and operated for the sole use of the owner (or a small selection of tenants). They should be distinguished from local Starports, which are owned by a local government or megacorporation (rather than the Imperium) but open to general traffic, and from spaceports (p. 60), which usually lack sufficient refueling service to qualify as private Starports.

Many densely populated worlds have a few private Class I ports for the convenience of inhabitants (usually nobles) who routinely "commute" via small starship. Class II private ports are very uncommon and Class IIIs rare. (An Edenic world used as a private retreat for the fabulously wealthy might have a Class III private port with orbital element.) Class IV or V private ports are almost unheard of.

Restrictions on access vary. In the above example of a private retreat, the downport might be exclusively for the use of its patrons' yachts. For security reasons, freighters delivering supplies would be required to transfer them in orbit to the retreat's shuttles. Any unauthorized vessel attempting to approach might even be fired upon after an initial warning.

Other examples might be on industrial "company worlds," or ports used by starship constructors to build and test their secret, experimental designs.

Inside the Starport Authority

*"A starport is music, a sonnet, a song,
An instrument lovely to play on;
And properly managed it never goes wrong —
And I'm the Mad Emperor Cleon."*

—attributed to Dorotea Pakar,
SPA board chairwoman under Margaret II

SPA ORGANIZATION

The Starport Authority has four levels of organization, from its board that oversees the whole Imperium-spanning network down to each individual starport.

THE SPA BOARD

The highest level of starport administration is the Board of Directors-General (usually just "the board"), based on Capital. Ten of the directorates-general share the same name as the 10 standard starport departments (see p. 19), and the sector Facilities departments. An Office of the Inspector-General (see below) makes up the 12th and final directorate.

The board chairman holds a tie-breaking vote over the 12 board members, and answers directly to the emperor. Traditionally, the emperor also appoints a new SPA chairman as a non-hereditary Imperial noble, usually a duke. He bypasses this honor if the incoming chairman already is a hereditary noble, but this circumstance has occurred only once. (Since the SPA certainly is not one of the Imperial services toward which the nobility gravitate, the vast majority of employees are of common origin.)

Observers from the Imperial Ministry of Commerce and Scout Service may be present at board meetings, and can participate in discussions, though they do not vote. Very rarely does either agency forgo this privilege. The SPA has a reciprocal privilege with those groups, which it attends to just as vigorously. This has resulted in the creation of a variety of permanent liaison officers between the three agencies.

SPA INSPECTORATE

The Inspectorate monitors the SPA's internal performance. This directorate does not follow the usual departmental hierarchy, nor does it often stoop to working through the traditional channels. Directors and coordinators in the other departments often complain that Inspectorate personnel go to great lengths to *avoid* normal procedures, even on the most routine requests . . .

The inspector general directly commands a number of inspectors. The *exact* number is not made public, but would be several thousands at a minimum. Each inspector operates a team of agents. Each team's work is compartmentalized, with the average inspector only vaguely aware of the work of a few of his contemporaries.

If this sounds like a covert intelligence service, in many ways it is, including a "black" budget. Starports serve as the setting for a number of sensitive issues, from prosaic smuggling to extremely delicate political intrigue. SPA chairmans past have determined a need to address these issues - and maintain deniability.

Starport Legend: High Stakes

"OK, so I wasn't there. A friend of mine - who don't lie - tole me, and a friend of her'n - who I hear don't lie all that much - give it t'her.

"Anyway, there's this floatin' poker game, and it's on a ship so it really does float, if you get me. And the only people that play are the inspectors general — army, navy, marines, scouts, an' Starports. They say an emperor - s 'posed to be Arbellatra - tried to buy in once and got told no. Don't ask me how you tell an emperor no. Only exception is, there's a seat open for the IG of the Sylean Scouts, who they say is still out - but hey, that's another story. Maybe I'll be thirsty again sometime, heh.

*"How **this** one goes is, they play poker just like anybody, 'cept there's no money, chips neither. When the bet comes round to, say, the navy IG, he'll say, 'Sword Worlds secure frequencies.' And then it's the marine IG's turn, an' **she** says, 'The **Onondaga** explosion,' and that raises him.*

*"See, what's money to these jokers? They all got black budgets the size of the Great Rift, and if they were the littlest bit greedy for tin they'd have other jobs. Information, now **that** they all got a thing for, and this way they can trade it without gettin' the whole bureaucracy involved, tradin' favors for this or that, you know. It even works like money, cuz without any discussin' it, they can all agree on what secret trumps what mystery.*

"I heard one night somebody took the pot just by sayin' 'Dulonor.' But like I say, I wasn't there."

Inspectors have considerable freedom of action in employing their agents, though they usually avoid activities that would disqualify a prosecution, such as entrapment and unauthorized commtapping. Other semi-legal antics - false ID, impersonation, etc. - are tolerated as long as they produce results.

An inspector and "action team" would make an excellent framing device for a campaign; see Chapter Six, *Campaigns*, for further discussion.

SUBSECTOR AND SECTOR OFFICES

The SPA maintains offices at the subsector and sector level to supervise and coordinate the operations of individual Starports.

Each port director's reports go to the subsector office, which digests and filters them. The 16 subsector offices in each sector pass their digests to the sector office. The sector office then reports to the SPA board. Naturally, all the original reports are archived, so that should a question arise, the "paper trail" can be pursued to the source.

A subsector or sector director leads operations at these offices. Each has several deputy directors; a sector director near the Imperial core may have as many as 100! Both of these offices have departments corresponding to those at the ports (see p. 19). Each department is led by a subsector or sector coordinator. The "coordinator" title reflects that their jobs are more organizational than supervisory.

Sector offices include an 11th department beyond the 10 standard starport departments, called Facilities and led by a facilities coordinator. It has two divisions:

Survey and Siting examines possible locations for new Starports in the sector, and considers major capacity alterations to existing ones: that is, those modifications that would raise - or in rare cases lower - the port's classification. Smaller improvements are approved and supervised at the subsector and local level. Survey and Siting is also the office that officially reclassifies a starport when an accrual of several minor modifications has effectively changed its classification. Many a port director denied an upgrade by Survey and Siting makes it his mission to slip under the red tape through a barrage of minor improvements on his own authority. Survey and Siting tends to frown on this tactic; bureaucratic infighting results.

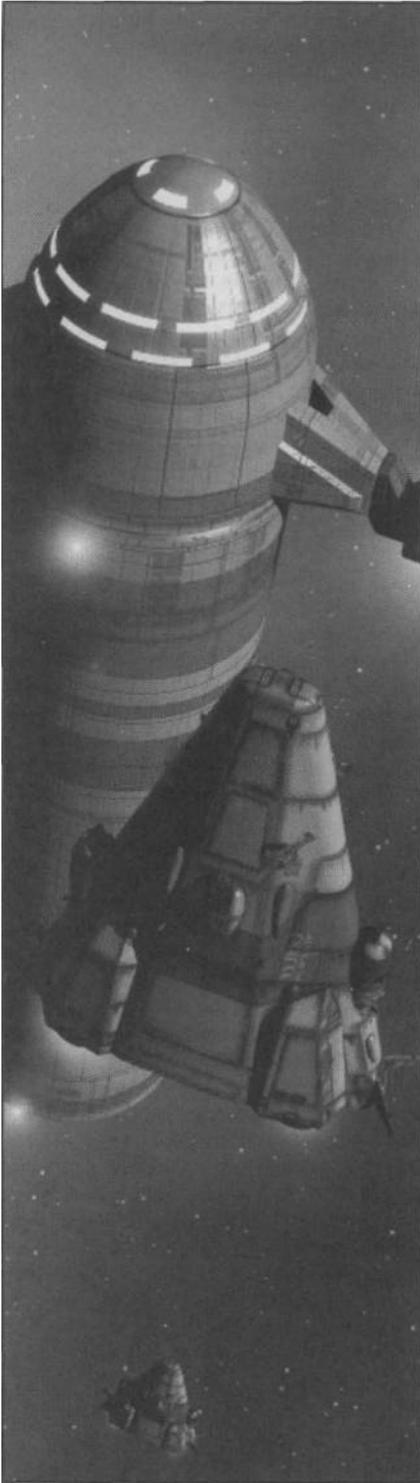
Civil Engineering arranges for survey and siting's construction projects, either committing the SPA's own construction units (which are under its authority) or contracting with outside interests. Usually outside vendors are used, unless special technical challenges or political problems exist.

INDIVIDUAL PORTS

All SPA ports of Class II or above have a chief executive officer, called the port director. Because of the interstellar communications lag, the director has considerable autonomy, although he is very much answerable to his superiors for the consequences of his actions. Specifically, many important port operations, including all takeoffs and landings, are conducted "at the director's discretion." This means that the director may deny lift or landing clearance to any vessel - even one operating on Imperial business - without stating a reason. When this power is exercised, a report must be made to superior authorities, and it will be expected to include the director's reasons, but even "a hunch" will pass muster as long as it turned out to be the right call. See the *Director's Discretion* sidebar, p. 20, for more details.

The director of a major port will have two or more deputy directors, who have authority when the director is ill, offworld, or otherwise unavailable. Technically, the deputies exercise their power in the name of the actual port director, who holds ultimate responsibility for their decisions. In practice, almost every port director is far too savvy to let his subordinates' errors reflect on his record, and higher authorities directly sanction deputy directors unless the port director's supervision included some glaring error too large for him to cover up. Rank, and mitigating circumstances, have some privileges.

Port operations are divided among 10 departments, each of which has a senior officer who reports to the director. The departments (and senior officials) are: Administration (administrative superintendent), Traffic (traffic superintendent),



Cargo (cargo superintendent), Ship Services (ship services superintendent), Passenger Services (passenger superintendent), Security (chief of security), Medical (medical superintendent), Flight Operations (chief of flight operations), Physical Plant (physical plant superintendent), and Emergency Services (chief of emergency services). The distinction between "supers" and "chiefs" is lost to tradition; the ranks are equal, and SPA documents usually refer to all such officers as superintendents.

Below this level, the departments have individual internal hierarchies: shift supervisors, crew chiefs, mechanics of various grades, assistants at all levels, etc. Promotions reflect both seniority and technical skill, determined through standardized tests in which length of service is added to the score (see p. 23).

The exception to this structure is the Class I starport. P/Is rarely have enough personnel to fill all the superintendent slots, let alone subordinate positions. The senior SPA official at a Class I port (who is sometimes the *only* official on the site) has the official title of general manager. This rank is half a grade above departmental superintendent, recognizing that, while there is not always much for the general manager to do, when there is, he's going to have his hands full. Any additional personnel are referred to as "officers" - e.g., communications officer. A single person may have several of these posts, though only receiving pay for the most senior job.

STARPORT DEPARTMENTS

Starports are extremely complicated organizations. They must provide a multitude of technical and service needs to exacting standards, with each port's staff straggling to do so in a unique cultural and physical environment. At the same time, the port must address a variety of legal and governmental concerns.

For these reasons, no one but the most utterly competent port directors can keep an eye on *everything* that goes into the operation of a starport, even a minor one. Day-to-day operations require a bureaucratic symphony of cooperating departments.

The SPA departments listed above perform the following functions. Some minor ports may not provide service in every office listed; major ports will.

ADMINISTRATION DEPARTMENT

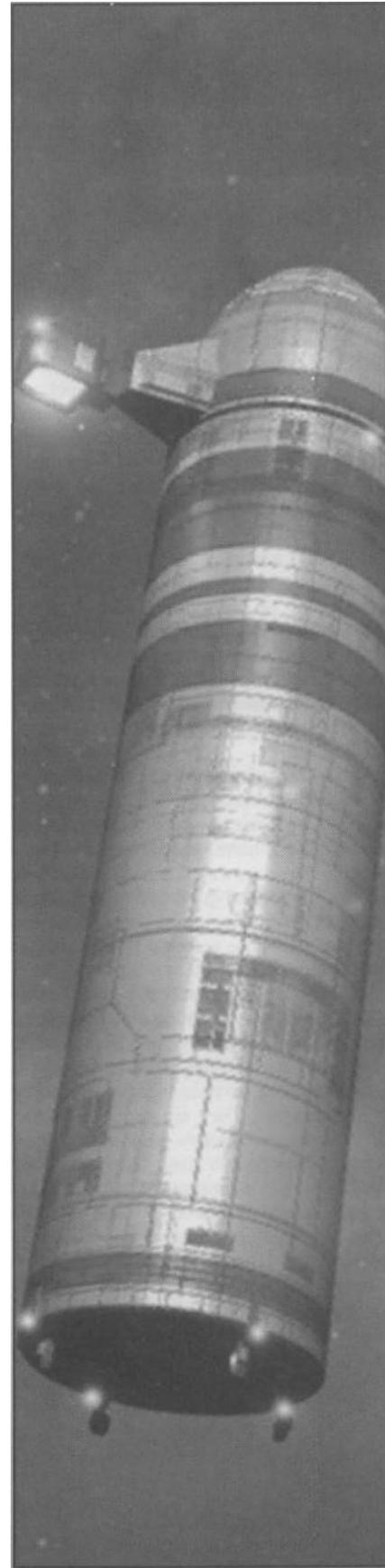
Essentially, this department notates, sorts, and files the immense amount of data created by starport operations. It includes most - but not *all* - of the bureaucratic personnel responsible for issuing permits and licenses, and at some point touches upon every piece of paperwork at the port, from ship registries and flight logs and cargo manifests to sales statistics for the vending machines.

Almost all of the work done by this division is tedious in the extreme, without a hint of the drama that the romantic might associate with running a "gateway to the stars." The inanity of their daily lives makes many administrative employees officious and self-important. As any free trader will tell you, it's best to get on the good side of these people.

While technically not as important as other service departments, Admin has enough power extending throughout operations to make life difficult for those who do not adhere to the rules as Administration interprets them.

Where Can I Get This Permit?

At the largest Starports, Admin offices often are concentrated in a separate building connected to the main terminal. Even when not physically separated from the bulk of the starport, administrative offices tend to be otherwise isolated. That is, non-starport personnel rarely enter these areas or interact with their staffs. The rare traveler who needs to make contact with administrative personnel often has a hard time figuring out where to find them. A roll vs. Administration skill might help. A favorable reaction from the nearest Security or janitorial personnel will help more.



Director's Discretion

The SPA charter declares that all port operations are conducted "at the director's discretion." This is a deliberately vague legal concept, intended to give the port director a very broad range of emergency powers without an infinite list of particular conditions and actions.

This rule does not give a director dictatorial power; it pertains *only* to allowing or forbidding port operations. Thus, the director could not arbitrarily order security to arrest civilians without cause. (Security, of course, may make arrests *with* cause, usually without consulting the port director.) Nor can private property be seized directly. A director may, for instance, shut down public access to a privately operated shop, tavern, or casino on port property, but he cannot restrict the owner from access without cause (a tenant-business owner with his rent paid up has every right to access his inventory, fixtures, and such).

While a ship cannot be seized without some legal grounds (such as evidence of skipping or smuggling), takeoff clearance can be denied, indefinitely if necessary, conveniently amounting to nearly the same thing. Imperial diplomats often ask port directors to deny entry or exit to ships carrying individuals of political combustibility.

The most controversial application of director's discretion is the authority to waive or reduce tax or tariff *collections* at the port. This leaves the taxed party (who often is parsecs away when the liability is noted) in the local government's debt, not the SPA. Port directors taking this action will receive more scrutiny than for other uses of their discretion.

Port directors need not provide the slightest public explanation for calling upon their director's discretion, and because they have this privilege they tend to indulge it even when their reasons are perfectly understandable. They are expected to use their discretion wisely - and must answer to their superiors if they don't - but the long career in negotiating delicate situations required to become a port director tends to weed out most of the "cowboy" personalities.

Conversely, port directors have been known to get a little eccentric, particularly after spending many years in some out-of-the-way post, and develop some outrageous applications of their authority.

This kind of loose legalism bothers some people who want legal processes to be a precise and discrete system of levers, but the SPA finds the policy essential. If it seems to contain an element of "frontier justice," that's because it does - the nature of space travel makes every starport in some way a frontier, however close it is to Capital.

This department is the heart of the bureaucracy, and its environs usually reflect as much. Visitors to Admin offices will usually find tightly packed government-gray desks, cheap chairs, lighting that's either inadequate or too bright, and ancient computer terminals. The port director always has his own office (even at a Class I port,



the general manager gets a little private space), and this might be *quite* comfortably fitted, but rank and file administrators usually make do with far more communal arrangements such as cubicles or open workrooms. Most Admin offices give off a dehumanizing air, adding to the general anxiety that probably accompanied the visitors' quest in the first place.

EXECUTIVE

This is the top-level port management: the port director, deputy directors, and their personal staffs. Most port directors (though not all) spend their entire careers in the Administration department.

The executive offices set policy for a starport. The port director also sets the tone for the operation of a starport. The director's discretion (see sidebar, left) affords him many opportunities to do things "his way"; determining

just how this translates into policy is a big part of the office's job. Some port directors and their staffs rarely interact with the operational departments except at the top level. Others can be found directly leading the smallest departmental office as whimsy strikes them.

THE LINE OFFICE

Also called the planetary liaison office, this is the port's primary interface with the local government. At Starports too small to have a separate planetary liaison, this may simply be a second hat worn by another Administration employee.

The line office's job is twofold. On the one hand, the office works to promote the importance of the local starport and the benefits that come from it. In the end, this responsibility is essentially a glorified form of public relations. The office advertises the port through public lectures, tours, educational media, and other methods. The line office usually does this in cooperation with the public relations office (p. 24). Sometimes this can lead to a rivalry between the two offices, something that is inevitable in the administration of something as large as a starport.

The office also deals with the more weighty matter of handling disputes between locals and the port. (Unless said dispute falls into general local relations that are being handled by an Imperial noble, the navy, or the like.) In cases with questions of jurisdiction (such as in police investigations), the office represents the director.

Problems and Protocols

The nature of these disputes varies according to the host planet. On Imperial worlds, the office primarily deals with environmental issues such as noise abatement, waste disposal, surface access, and occasionally aesthetics. ("Dear Director: Your new hangar is the ugliest thing I have ever seen, and I have to see it from my bedroom window . . .").

The nature in which the line office handles these complaints and liaison with local governments often depends on staffing. A large staff of lawyers and negotiators specializing in intergovernmental affairs may spend most of its time "out in the community," playing the local equivalent of golf with community leaders and officials, proactively heading off problems before they arise, and quietly becoming a major political player. A single beleaguered line officer who has to plead with the port's legal office to render the opinions he

needs may hide behind triplicate forms and an avalanche of frustrating "It's under advisement" responses.

On independent worlds, the job is much more delicate. Even governments that get on well with the Imperium differ with it about many details. On the frontier or newly integrated worlds, the line officer can be a very busy person, with a large and extremely overworked staff.

On "uninhabited" worlds - that is, those with no organized government and a small, thinly spread population of homesteaders, prospectors, etc. - this office may be replaced by a frontier office, which provides information to potential settlers and provides them with someone to call for assistance. Whether the port can render such assistance is another matter entirely.

Priorities

Smoothing over ruffled feathers is paramount, but the line office will not shrink from defending the prerogatives of the Imperium. In particular, the line office does not look kindly upon the mistreatment of Imperial citizens by local governments. While all Imperial citizens have certain universally recognized rights and privileges, the extent to which they apply in specific circumstances can sometimes be vague. This is where the line office steps in, providing a clear head to oversee these sorts of delicate negotiations.

Even more delicate is the question of local citizens claiming XT immunity. The SPA hesitates to intercede in local affairs not directly concerning its ports, but where human rights are grossly violated the line office may "look the other way" on the question of local refugees, or even subtly support their efforts to reach Imperial protection. The Imperium usually will not support such efforts, if exposed, but will just as subtly reward them, if not exposed.

The SPA's missions of promoting good relations with the local government and enforcing the XT line often directly conflict with one another. The port director and his staff will have to carefully balance these priorities.

Working for the line office is not considered particularly glamorous or prestigious, but does offer the opportunity to make a name for oneself if an explosive political situation can be negotiated with minimal fuss and fallout.

Planetary relations are further discussed in Chapter 4.

CONCESSIONS

This office oversees all port concessions (businesses operated at the starport by private concerns) and collects rents, licensing fees, and related income from them.

There are two main kinds of concessions, amenity services and business space. The former includes public needs such as hotels, restaurants, shops, and entertainment. The latter covers port-related private enterprise such as spacelines, travel agents, and cargo brokers. At most major ports, concession space will account for two-thirds to three-fourths of the port's operations. That is, most warehouses will be permanently leased to a particular corporation, most berths permanently leased to a particular starship line, etc.

Lease Arrangements

Space is rented to the concessionaire for either a flat fee based on floor area and location (some locations are more valuable than others) or a fee plus a percentage of gross income. Rents are usually due every 30 days, and contracts usually run from a year at a time for small retail shops up to 99 years for megacorporate starship berths. (Legend has it that a savvy port director once agreed to one of Tukera's renowned exclusive deals by getting the megacorp to lock in for 300 years, with a hefty upfront payment. A few months later, a Zhodani fleet arrived. The world was Jewell. Tukera's contract meant it had to keep making payments during the interval in which "port facilities" consisted of cleared patches of scorched earth, and its credits heavily subsidized rebuilding the starport. Duchess Margaret was not pleased . . .)

Planetary Liaison: The Few, the Frustrated, the Ignored

"Being liaison officer on a hostile world is easy. They never talk to you when things are good, and when they're bad they just throw a few mortar rounds to get your attention. It's the nice ones you have trouble with. There's always 'just a little problem' here, and 'something we hope you'll look into' over there, and 'an issue in need of adjustment' down yonder.

"And that's when they're being friendly. When they aren't - well, one mortar round looks a lot like another."

- Wellington Ozal,
liaison officer (ret.)

Concessions

The major sources of difficulty over concession agreements usually arise from:

- The operator discovers business is poorer than expected, and wants the rent lowered accordingly.
- A change in corridor traffic patterns increases the flow past the location, causing the port to want the rents raised or a rent-plus-percentage tenant to replace a flat-rate one.
- Disagreements over income reporting (and therefore payments) by percentage tenants.
- A problem with the behavior of the tenant, usually identified by customer complaints - from inferior service to open dishonesty.
- Tenant complaints about port services such as housekeeping and maintenance.

Most of these disputes are minor, or involve only tiresome wrangling between the starport's concessions office and tenant's legal representatives - not the stuff of adventures. However, an apparently minor complaint could be the first clue to something bigger. A casino is unlikely to simply admit that it is cheating its customers (and probably underreporting its income to the port management). Someone will have to go undercover to find out. Substandard maintenance might be an effort by less-than-honest port management to force out the present tenant. "Improved housekeeping" could also be a way for investigators to penetrate an operation believed to be running an illegal side business.

"I'm From Legal"

Often inspired by John Grisham, a lot of would-be bestseller writers have tried to prove that lawyers can have daring adventures just like . . . well, archaeologists.

The standard version of this plot has a clerkly type discovering evidence of dirty business among the contracts and balance sheets, attracting the attention of Those Behind It All, and spending the rest of the yarn dodging amateurish professional killers and the unhelpful police. This could be a perfectly good one-shot solo adventure.

Or the lone hero can be expanded to a group of people who, after stumbling over corruption, have to keep their throats unslit by means of their not-very-adventurous skills, long enough to expose the plot. The limits imposed on adventuring by white-collar day jobs can be gotten around by having them fired, either deliberately (an attempt by the Dark Plotters to get them out of the way) or indirectly (the Plot bankrupts their company, causing them to be made "redundant").

The considerate GM will set up encounters that call for mundane or hobby skills for survival - say, a chase that calls for a knowledge of the public transit system that the fat-cat limo-riding villains lack. They may also have a guardian spirit, perhaps a high-ranking official who can't help openly without solid evidence, but can provide transport and occasionally intercede with the cops. Resist the temptation to make one character an undercover agent; this person inevitably gets to do all the fun stuff, while the other players are demoted to sidekicks.

There's also the paranoid version of this story, in which ordinary folks discover that, for no apparent reason, someone wants to kill them. After the first attempt (which for obvious reasons fails), it starts to look like *everyone* from security guards to hot-dog vendors wants them dead (remember the mailman in *Three Days of the Condor*?), and will neither quit trying nor answer a simple question like, "What is your *problem*?" The only way out is to figure out just what they did in the first place, which leads inevitably to the Huge Hidden Conspiracy.

A more conventional adventure could begin with investigators being tipped by a legal or financial officer that something's rotten at the starport. In a noirish tale, the informant gets killed moments after handing over the first piece of evidence. Or the informant could himself be the key to the plot, requiring the team to concentrate on keeping someone with no survival skills alive against everything the villains can throw their way.

Other rent arrangements are possible; some spaces rent month by month or seasonally (a farmers' market, for instance), and some retail leases run for longer periods, especially those signed while the port is under construction and the concessions manager is under pressure to fill the space.

Concessions are an important source of income for Starports, sometimes accounting for half or more of annual gross. The concessions manager is expected to monitor both the income from and the behavior of concessionaires, and may alter the terms of a lease up for renewal, or refuse to renew for operators who are habitually behind in payments or receive an excessive number of consumer complaints. Canceling an unexpired lease requires legal action, based on evidence that the concessionaire has seriously violated the lease terms (most often, by misreporting income).

LEGAL

The lawyers field questions of Imperial law, draw up contracts, and handle litigation by or against the port - competing insurance claims, accusations of excessive force by security, breach of contract, etc. Legal does not directly prosecute criminals apprehended on port property, though an SPA legal officer will confer with the proper Imperial or local authorities before a hearing or trial. Legal also coordinates with the line office in jurisdictional and other matters.



FINANCIAL

This office handles accounting and bookkeeping, and also manages investments in or by the port (such as bond issues). It collects and disburses payments to and from the port - including the all-important tariff collections for the host government (see pp. 7-8).

If Knowledge and Money Are Power, Knowledge of Money Is . . .

Like all Administration departments, the financial office takes in and reroutes streams and streams of information. But where a ship's cargo manifest might have some interest or use to a few outside parties, a megacorporation's income reports attached to its rental agreement could prove extremely useful to many of its competitors, tax authorities, pirates, etc. Given how much of a star system's government and commercial business filters through its Imperial starport, the financial office databases would provide a bonanza for various intelligence agencies, competing corporations, terrorist organizations, etc.

Despite this, most financial personnel become somewhat jaded about data security. After all, they see these figures every day, no matter how confidential they are. Most good Security chiefs realize the vulnerability of the starport's financial data, and run checks for illegal access more often than on other port computers, but espionage occurs all too frequently.

PERSONNEL

This office recruits and interviews employees, maintains their records, and hears comments from supervisors on their performance, for good or ill. The personnel office does not make promotion or firing decisions, which are the responsibilities of the relevant department heads.

Concessionaires are responsible for hiring and firing their own employees; the personnel office is not involved (but see *Labor Relations*, below).

Getting a Job

Anyone interested in beginning a career with the Starport Authority would start at this office. The SPA only hires Imperial citizens (though contract workers often are not citizens; see sidebar, p. 26).

Though the scouts believe they get preferential treatment in acquiring SPA jobs, a well-kept Personnel secret is that all former Imperial-government employees receive credit for their former service. An entrance exam must also be passed.

If it matters (for instance, the PC is among four applicants for a single opening), roll a contest of IQ for all applicants. Those who fail the roll don't pass the exam. Those who make their IQ roll add 1 to their margin of success for every four years of Imperial employment (including previous time in the SPA itself). Applicants with the greatest modified margin of success fill any openings; in a tie, any seniority in SPA service, followed by any other Imperial-government service, serves as the tiebreaker. The same system can be used for promotions within the SPA.



LABOR RELATIONS

This office hears complaints from employees concerning working conditions, and from the port's department managers about worker performance. Every attempt is made to arbitrate disputes, and prevent actual lawsuits.

The labor office also is open to complaints from employees of concession operators, although these are not technically port employees. Again, attempts will be made to arbitrate. There is not much direct action the office can (or will) take against a concessionaire in these cases, unless SPA contract terms or Imperial laws have been grossly violated.

RECORDS AND DATA-PROCESSING

RDP maintains extensive reference databases, and has retrieval specialists to search for any required information. It also maintains archival backups of all the port's datafiles.

RDP has a cryptography section - and cryptanalysis section at those ports where it is considered useful, though the fact is never advertised. RDP often cooperates extensively with the executive office in carrying out its more sensitive tasks.

Sweating the Small Stuff

There are two ideas among port directors about contracting out support services such as housekeeping and commissary (employee dining) to locals who aren't Imperial citizens.

The argument from Security goes that housekeepers are the least observed of all port personnel; they go everywhere (indeed, they have to) and are, as G. K. Chesterton called it, "mentally invisible," even in sensitive areas, as long as they seem to be doing their jobs. The possibilities for spying or sabotage are clear. Similarly, it would be easy for a commissary employee to poison workers *en masse*.

The argument from local liaison offices says that treating non-Imperial locals as potential enemies is the best way to make them real ones, while allowing them to share in port operations increases good will (and creates local jobs, always a popular move). Proper security procedures, including rigidly enforced badge-checking, access control, and close observation of key areas - measures that are a good idea, anyway - will keep the risks at an acceptable level.

Most SPA ports don't address this issue, since the locals usually are Imperials. Among most of the rest, the "trust" argument outweighs the "security" argument, partly from the practical fact that there aren't enough Imperial citizens willing to travel interstellar distances for janitorial and cafeteria jobs. Also, locals at the most hostile worlds simply don't apply for work on Imperial territory, and are often considered "collaborators" by their neighbors if they do.

When neither Imperial nor local staffing can fill the port's labor needs, there are interstellar corporations that provide contract services of this type (see *Contracting*, p. 26).

One further point: When local contract employees do commit crimes, non-Imperial governments often insist that their citizens be turned over by the port for local prosecution. It is Imperial policy to comply with these requests in all but the most extreme cases - notably, crimes directly against the Imperium, such as attempts to assassinate major nobles or to seize the starport. Such local prosecutions do not always satisfy the Imperial idea of justice. Imperial military bases do employ civilian contract labor, but only Imperial citizens - not because they are necessarily more trustworthy, but because the legal rules are absolutely clear.

Contractors

Directors are encouraged to contract local services. This is considered good for port/world relations, as it gives the locals a stake in the port's success. It creates jobs, and a port whose employees are heavily local is harder to see as an "alien" or "colonial" presence. This policy has proven successful, but there are difficulties.

A non-Imperial local workforce may believe "we do all the work and the Imperials give all the orders." This is less of a problem in retail concessions, where the entire staff is likely to be local, as it is in port operations, where SPA employees will supervise non-citizens as contract labor.

If the world has an active anti-Imperial faction, local employees crossing the XT line every day may be perceived as a security problem. Clumsy attempts to tighten security, through more rigid use of ID checks and especially an attitude of "the landsiders can't be trusted," often only worsen the problem. (See *Sweating the Small Stuff* sidebar on p. 23.)

Interstellar corporations also provide contract services to Starports (referred to as "offworld" contracts). These companies may be subsector-, sector-, or Imperium-wide, though the costs of moving workers from site to site (and the resistance to being moved too far from home) mean they are organized by regions.

Offworld contractors screen their workforce; they are in a competitive business in which reputation is critical. Occasionally, spies or smugglers who can beat the vetting procedure get starport jobs in this way - after all, if they do their "real" work properly, no one will ever suspect their true goals. Investigators (such as SPA inspectors) may have to hunt through a small army of sweepers and window-washers to find out who's been picking up certain parcels from the cargo area one step ahead of Security.

The Hidden Hand

A "hidden" reason for seeking local contractors is that it encourages planetary business rather than megacorporate franchises. The Imperium certainly recognizes the value of megacorps, and generally works cordially with them, but it also perceives the problems created by a company with too much power, especially over an industry so important.

A planetary food-service provider in a contract dispute can, at most, force port employees to eat military rations for a while. A megacorp that manages ground-vehicle service at 200 ports could threaten to shut down half a sector. For their part, megacorps quietly purchase interests in smaller service providers, and thus influence far more port business than they directly control.

The Bid Price for Fangabeans 37 Years Ago Was . . .

RDP's personnel are the "master librarians" of the Starport Authority. They tend to spend their entire careers in the department, often becoming detached from other port activities. (It might help to think of them as cloistered monks of an information age.) Finding oneself in the good graces of a veteran RDP employee can prove extremely useful for digging up the most obscure information. A major starport touches on most areas of Imperial life, and a good RDP department keeps tabs on *all* of them.

Unlike the financial office, RDP rarely suffers data piracy. Some of the department's own activities border on data piracy, and as masters of the trade RDP personnel often laugh at the amateurish efforts of others to crack their databases.



PUBLIC RELATIONS

This is the port's image, voice, and spin control to the public at large. When there is a crash, a terrorist incident, or a major loss of passenger baggage, the PRO makes a statement. Some port directors prefer to make their own public announcements on important matters, some read what the PR office writes for them, and a few let a PR officer do all the speaking.

Less dramatically, PR publicizes port amenities and services locally (where the political situation allows). Those giveaway "Visit the Shining Streets of Capital" holoposters that university students decorate their walls with come from SPA. In this activity, PR cooperates with the line office.

COMMERCIAL LIAISON

This office deals with the requests and customs complaints of the port's commercial users: shipowners, shippers and brokers, concessionaires, and contractors. Passenger complaints are the responsibility of the Passenger Services department's hospitality office, p. 32.

MILITARY LIAISON

This office communicates with the military services, including any bases in the system but separate from the commercial port. The military liaison officer is not directly responsible for the port's marine garrison (if any), as these troops are under

the command of their onsite officers (who report to the port director in the absence of higher command authority), but the MLO may make reports to the marines' off-world superiors on their performance.

The MLO is a common place for ex-Scouts and former military personnel to work. Indeed, many directors prefer to appoint ex-military personnel to this position, believing that soldiers prefer to deal with veterans instead of civilians.

EMPLOYEE RESIDENCE

This office assigns and oversees staff housing.

On Imperial worlds and non-Imperial worlds with good relations, the majority of downport employees live outside the port boundary, and travel to work. Highport employees have the option of commuting to work from ground residences or living at the highport itself. Even groundside, there is always some kind of residential housing within the extrality line. Housing staff on-site makes them instantly available for emergency situations, and some significant percentage of offworld staff just won't be comfortable among the strange environs of the host planet.

On non-Imperial worlds of less than good relations, non-Imperial contract employees will still commute from outside the XT line, but Imperials generally live inside.

On opposed worlds (p. 41), the port will be a city unto itself; a few locals may cross the XT line to work, but life is not made very easy for such "collaborators." Highport workers either live in orbit full time, or alternate high and low shifts (typically three weeks each) with a vacation week between. (Some staff, mostly senior supervisors, "commute" as needed between high and low sides, but even with gravity compensation this is a wearing regime.) Naturally, if there is no downport, the entire staff must be housed in orbit.

On frontier worlds, there may be no town to live in, at least for some years. Some career employees live at the port even when there are other options, because they feel more "at home" within the XT line, or because it is less expensive than planetside housing plus commute.

Port Housing

At Class III and larger ports, apartment blocks are constructed, with circulator transport (bus, monorail, or direct pedestrian tunnel) to work areas. A P/II may have individual detached housing for superintendents and the director. At a Class I port, the general manager may live in the headquarters module, but often builds a house somewhere on the grounds, especially if there is a family to raise.

The majority of port apartments are built by SPA (directly or through contractors) to basic institutional-style plans. Long-established major ports needing to expand their housing have, in the last couple of centuries, brought in more sophisticated architects to produce something "less like a minimum-security prison." The rooms are still standardized, differing only in floor space (space assignments rise with family size and rank). Initial furnishings are also basic, but residents are allowed to furnish and decorate as they please. Entrepreneurial dealers periodically ship in container loads of furniture and interior elements, and hold a "wharfside sale" at the cargo facility, with near-wholesale prices; the cargo handlers move the purchases to their destination in exchange for free merchandise.

The port director naturally has first choice of living quarters, often occupying two or three combined apartments (some of which space is used as a "home office"). Some directors prefer to live in the port's office complex and commute to their workspace by elevator, corridor, or just walking into the next room.

Resident employees pay rent for their housing through payroll deduction, unless there is no off-port housing option, in which case housing is included as "frontier pay."

Employees of contractors and concessionaires housed on-site have their rent paid to the port by the employer, who may pass on part or all of the cost. SPA forbids employers from "subletting" for more than the actual rent, though some employers try to find ways around this.



CONTRACTING

This office selects and supervises contractors, outside individuals or companies hired to perform some service for the port.

The largest and most common contracting jobs are in construction - either in new facilities or improvements to the port. Services such as housekeeping and food service may be contracted out, especially at smaller ports where the cost of maintaining full-time staff and equipment for such work would be excessive.

At non-Imperial ports, an outside contractor often provides ship servicing and occasionally security is contracted to private firms, though many consider this a risky practice. Imperial ports never contract out either service.

TRAFFIC DEPARTMENT

Traffic directs the movements of all aerospace and surface vehicles within the port's controlled area. It also has responsibilities for keeping track of ship movements and satellite operation.

TRAFFIC CONTROL

This office is responsible for all spacecraft movements within the port's controlled area. Given such, it provides the "heartbeat" of port operations.

Certain elements of traffic control have remained familiar for ages. During peak traffic periods, an SPA traffic controller requires nerves of steel and the self-confidence of a fighter pilot. Also tradition, SPA traffic controllers suffer an alarming rate of stomach disorders, nervous conditions, and the occasional mental breakdown ...

As long as their Accel exceeds local gravity, starships are capable of true vertical takeoff and landing and require no minimal air speed, which makes life a whole lot easier for traffic control. Starships and non-starships are given an approach path and high altitude at which to lose all horizontal (orbital) velocity, then the ship drops straight down to its berth. Conversely, ships take off straight up, then at a specified altitude are cleared to move out horizontally, building up airspeed to exceed the high stall speeds of their lifting bodies and more rapidly reach orbit.

If a ship is so overladen that its Accel slips below the local gravity, it will be assigned to the highport. If it *must* land dirtside, traffic control will send a lighter to offload enough cargo to enable VTOL landing, or order the ship to jettison cargo to enable VTOL landing. In the latter case, a lighter will be sent to pick up the jettisoned material as quickly as possible.

For these reasons, most SPA Starports have no runways. (Even if circumstances would best be served by a runway landing, most starships and non-starships have landing feet rather than proper wheels, making the effort rather non-practical.) The local government may maintain an airport with runways (though some high-tech airports don't use runways, either) that services the starport. This will be located close by - but not *too* close, so that airspace crowding is reduced.

At downports, starships and non-starships sometimes do need *taxiways*, which they cruise down hovering a few meters above the deck, for those occasions when they must transfer from their landing pad/berth to the shipyard for major repairs, or to a warehouse for convenience in loading cargo, etc. The GM can rule that starships are not at all agile in nap-of-the-earth travel (though technically, according to *GURPS Vehicles*, their vectored thrust leaves them no less maneuverable than a grav vehicle). If so, most downports would minimize taxiway traffic. A sudden gust of wind at close quarters would turn routine "ground" traffic into a costly mishap.

A downside to all this is that higher technology allows less time to recover from pilot mistakes. A TL6-8 airliner takes time to veer off its approach. A vectored-thrust starship with a few gees of Accel to spare can cross another flight path before the first "oops" gets muttered.

The details of traffic control depend upon equipment and starport type. More information can be found in the sidebars on pp. 76-78.

Emergency Landings: The Rules and the Loopholes

Everybody knows that a port facility, of whatever sort, is required to grant immediate landing (or docking, in the case of a space facility) to a vessel in distress.

As with most things everybody knows, this is mostly true, most of the time.

The Imperial Navigation Act of 103 states that "the director of a starship service facility shall offer all appropriate assistance to vessels in distress." Space lawyers will immediately see the possibilities in this construction. Most importantly, it speaks of what the director is supposed to do (the distinction between "shall" and "must"), and does not supersede "director's discretion."

In the vast majority of cases, this breadth of action never applies. A ship issuing a Mayday call gets immediate clearance and the crash team is scrambled to meet it. The director is, however, perfectly justified in requiring the ship to pause a safe distance from the port and be met by a first-responder vessel, or post tac team snipers to cover the ground crew, or (in extreme cases) order the ship to ditch on a nearby body of water. After all, the Phony Distress Call/Trojan Starship trick is something else "everybody knows."

A director *is* answerable to SPA for this kind of "extraordinary caution," and will not use such measures without reasonable cause to do so - recent similar incidents in the subsector, a report from the registry that the vessel is on the "hot sheet," or advance warning from Imperial intelligence.

Such a high-profile response could also be part of a deception operation, to establish the crew's credentials as "villains" to enable them to infiltrate a *real* hijacking ring.

Private ports in Imperial space are subject to the same law, with the same discretionary loopholes; their directors (or whatever title the chief executive officer holds) may or may not be answerable for misuse of their "discretion," but most will meet questionable Maydays with armed caution rather than active hostility. Nobody likes bad publicity.

SHIP REGISTRAR

This office keeps records of all vessels entering system space, and informs customs officers of any ship reported as skipped, hijacked, or stolen. Registry data is compiled weekly and sent by Xboat to the SPA sector office (p. 18).

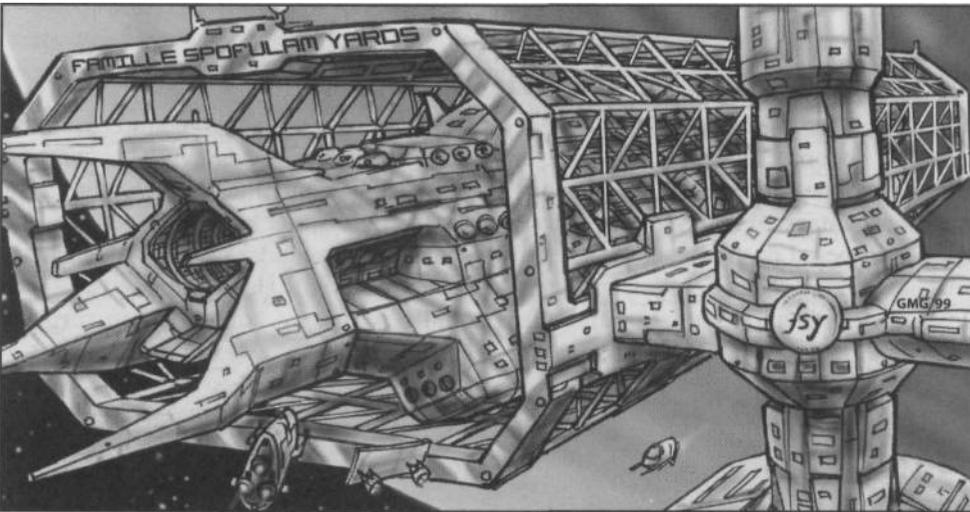
The ship registry office commonly cooperates with Administration in carrying out their duties. Especially in the frontier sectors of the Imperium, SPA is quite vigilant in checking out "suspicious" registries. This is not to suggest that stolen or otherwise illegal starships do not manage to get past SPA; they do all the time. Rather, SPA is keenly aware of the importance of assisting local and sector authorities in tracking down starships involved in criminal activities.

VEHICULAR CONTROL

This office directs traffic for "ground" vehicles, which usually include small grav transports not normally used for orbital work as well as lower-tech wheeled or tracked conveyances.

Vehicular control is directly linked to ground control; at Class II ports they may be the same desk.

Ground-vehicle roadways and spaceship taxiways are separated as much as possible, but they inevitably must cross paths. As a rule, taxiing vessels have priority over ground vehicles, except for emergency vehicles.



SHIP SERVICES

These offices handle the mechanical part of starship operations: housing and repairing vessels while at the port. Because these operations are the source of a great deal of a starport's income, port directors usually make certain that they operate smoothly. Thus, travelers are less likely to encounter the kind of self-important officiousness that is the hallmark of Administration services.

At the same time, inadequate or rushed Ship Services functions can cause vastly more damage to a starport (and the surrounding area) than can a legion of smarmy bureaucrats. For that reason, SPA port procedures generally allow liberal time for Ship Services operations. This can create delays if many ships await the same service.

BERTHING

Berthing maintains all landing pads and berths. Most SPA downports offer a combination landing pad/berth, in which the starship drops into a large, walled open space. Some of these will offer retractable roofs, often no more than the ultra-tech equivalent of canvas. Other arrangements can be found - some downports offer an unwallled landing pad adjacent to the roofed berth proper. Just before touching down, the starship changes from vertical to horizontal movement and slides into the berth. A few of these berths have no walls, offering only a roof.

"Get Us Out of Here, Now!"

Every now and then, people want to leave a starport in an extreme hurry, usually because other people are right behind them. Much of the time, the people in the big hurry are player characters.

It goes without saying that such departures are not cleared by traffic control. This in itself is enough to cost a pilot his license, whatever else he may or may not have done. Those trying this should either do it at a private port that they don't intend to revisit anytime soon, or they should be confident their actions will eventually make the Imperium very, very grateful.

A quick exit usually involves simply an open berth or an open hangar door, and ignoring traffic control (a *serious* offense).

This can be a lot more complicated if the ship is undergoing maintenance. A premature departure from a work cradle (pp. 78-79) requires three things: no important structural parts missing from the vessel (it *was* here to be worked on, remember); someone who knows how to release the hydraulics (if not, all that will result is a very expensive mess); and the hangar doors should be open.

Opening the hangar isn't automatic when in a cradle; often the port will seal the doors from non-SPA control to allow easy work in hostile environments, curtail theft, etc. If the ship's crew cannot open the doors in the conventional fashion, lasers may be used as a shortcut. Other ship's weapons either won't work or will damage the ship. Demolition charges are an alternative, if a risky one.

Those factors given, getting out of the cradle in a hurry is a test of Piloting skill at -2, worse if there are other things going on (people shooting at the ship, for instance). A failure damages the ship, but leaves it flyable. A critical failure ends the trip.

Leaving abruptly while on scaffolding (p. 78) is somewhat easier. A ship is held in the scaffolding mostly by gravity, with a few cotter pins and cables here and there. A Piloting roll at -1 is required to avoid damaging the ship. Whatever else happens, the attempt will scatter scaffold parts, stray tools, and slow-to-get-the-message mechanics all over the pad area, and possibly several adjacent ones as well.

In all cases, leaving a hangar (as compared to a roofless berth) *in a hurry* requires another Piloting roll at -1.

Once out of the hangar, the ship is in a "normal" pursuit situation. Even if it has weaponry at its disposal, the port authority will not fire on the vessel for fear of hitting a ship that's where it's supposed to be. The people chasing the ship may not be so rules-bound.

Once beyond dense traffic, the ship is fair game for customs cutters or any other official vessel.



The Travellers' Aid Society Certification

Many outsiders mistakenly believe the Travellers' Aid Society to be an organ of the Imperial government, partially because TAS provides a number of services of such high quality and efficiency that they have become default standards throughout many regions of the Imperium.

Chief among these is its vessel inspection regime. TAS has created a program designed to test starships and other craft in accordance with the specifications set down by the Imperium for spaceworthiness. TAS has even created a number of specialized instruments for the implementation of this program (along with training for the personnel doing the testing).

TAS sells both its specialized instruments and its regime to interested outside parties. TAS also offers its training course to starport personnel, to ensure that their own inspection of vessels meets the high standards that TAS employs in its own. TAS employees sometimes cooperate with starport personnel by providing them with methodologies and equipment.

For starship crew, TAS provides the most authoritative certification for their various job ratings and licenses. See pp. T:FT82-85 for more information. TAS offices at Class V ports usually provide this service.

At highports, smaller craft will berth in spacedock hangars within the highport proper; larger vessels will attach to external cradles mounted to the highport hull.

Except at Class I ports, where a berth is just an empty spot (often not even paved), berths have connections for electricity (so that the ship's plant may be taken offline for maintenance or adjustment), sanitary couplings (flushing the water and air systems), and area lighting. Charges for these services are included in the berthing fee.

Routine maintenance is performed in the berth, either by port workers or the ship's own crew (see below).

FUELING

Next to cargo-handling, this will be the most commonly seen activity at the average starport, and equipment related to fueling will be found all around the flight areas.

Some starships can provide for their own fuel, but even captains of streamlined ships with fuel processors usually find purchasing fuel at port less expensive than detouring to the local gas giant.

Almost all Starports gather their fuel from a hydrogen source (water, ice, or methane) in the system. This may be available on the main world (though worlds with limited water resources may not allow the port to use them), or be transported from a planetoid belt or gas giant in the system.

Chemical fuels such as petroleum distillates are sold by the stores office (below).

STORES AND PROVISIONING

This is the "ship chandlers," a general store selling necessities of ship operation and life aboard. The larger the port, the more varied the goods available, but the items absolutely needed to keep a ship running, such as air filters, basic lubricants, and vacc suits, will always be available unless the port is blockaded.

At Imperial ports, standard stores always are sold at standard prices. Most stores officials have great discretion in purchasing, therefore will also have one-of-a-kind inventory on hand. The ship chandlers usually will have something to surprise anyone.

MAINTENANCE AND REPAIR

Mechanical servicing of vessels at Imperial ports is performed for standardized prices (pp. T:FT74-76), which do not vary. Vessels are serviced in order of request, and this does not change unless a genuine priority case comes up, or a ship's master volunteers to move down the queue. Non-Imperial ports may vary their rates, and sell early-service positions (either by open auction or bribes to the chief of servicing).

HOUSEKEEPING

"Housekeeping," as it applies to the Ship Services Department, means cleaning the living and working spaces of a vessel: scrubbing surfaces, cleaning windows, and if necessary scouring the galley and laundering sheets and towels. (Standard ship's freshers use warm forced air for hand-drying, air being cheaper and lighter than water, but towels are still very useful things, as every veteran space traveler knows.)

Not every crew uses this service. Some keep their ships sufficiently clean that outside work is unnecessary; others don't like the idea of having their quarters "gone through" by strangers; some just don't care. Small vessels with a few passenger staterooms usually have these cleaned professionally between occupancies; it's one less chore for the crew, and avoids dealing with the passengers' sometimes messy leavings. Large passenger liners have onboard housekeeping staff, to provide regular maid service to staterooms.

All major ports have cleaning crews, and some Class III ports as well. At smaller ports, it is necessary to call in a planetside maid service, if one is available.

CERTIFICATION

The Imperium certifies vessels for safe operation ("spaceworthiness"). A vessel arriving at a Class III or larger port without a valid operating certificate may be required to berth in a designated area away from other vessels, and undergo immediate inspection. If it fails this, it can be denied permission to leave the port until it can be brought up to standard.

A certificate is valid for five years, though ships usually undergo recertification as part of annual maintenance. The process takes one day (part of the maintenance time, if done then) and costs Cr1 per displacement ton of vessel, including all small craft carried aboard.

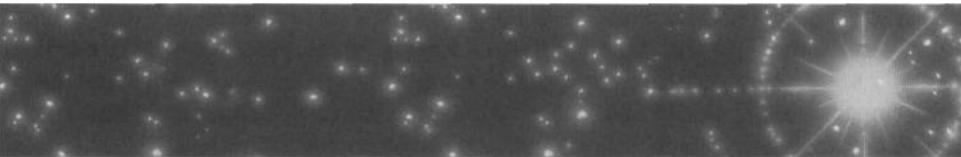
Certification inspectors may demand a spot inspection of any vessel of Imperial registry, at any time, for any reason. If the ship is found to be in compliance, there is no charge for the inspection, though there is also no reimbursement for lost time. If not, fines will be assessed, and of course the certification is canceled until the situation is rectified. Inspectors will not usually run a spot-check unless something about the vessel attracts their attention; there are just too many ships and too few inspectors. However, a random inspection is always a possibility.

HIRING HALL

All Starports have some kind of facility for matching unemployed starcrew with ships. At Class I and some Class II ports, this is just an electronic bulletin board where prospective hires can post their qualifications and contact information. Larger ports will have an actual office where prospects can be interviewed. At major ports, the hall will have a hostel where crew who cannot afford private accommodations can get a bed, shower, and cafeteria meals at little or no cost.

Retired crew usually staffs hiring halls. At major ports, a representative of the Imperial Ministry of Commerce is available to hear complaints (or, once in a while, positive comments) about working conditions and hiring practices.

One should keep in mind that many worlds in charted space are serviced *only* by independent merchants and their ships. Corporations generally require economies of scale that prevent them from serving smaller markets. Consequently, hiring halls can be the site of considerable activity (and opportunities), especially on the fringes of the Imperium, where the population density is often not as great as in the core worlds.



CARGO

Observers tend to forget that a starport's primary business is moving goods and merchandise, not people. The Cargo Department is an important and often very busy place.

FREIGHT HANDLING

Cargo handlers (still sometimes called "stevedores" or "longshoremen") move all cargo within the port. The exception is that an outside crew may load or unload on its own property, which includes property rented from the port. Thus, a ship's crew may load or unload the vessel in its berth, and a shipper with a warehouse or container park inside the XT line may use its own employees to stack and sort goods there.

The port's handlers, however, conduct any movements between these points. Generally, this means that "temporary" leases such as a berth require the port handlers to move the cargo past the XT line while long-term leases - such as megacorporate warehouses - allow the tenant to move their own cargo from start to finish. (The cargo must still clear customs on crossing the XT line, of course.)

Surprise Packages

"The label says it's salsa verde."

"I thought it ate through the concrete pretty quick."

Mislabeling cargo is illegal, but there wouldn't be a law if only honest mistakes took place.

Most of the time, mislabeling is accidental and of concern only to the shipper and customer - a container of wingnuts marked as thrust washers. The cargo handlers are unlikely to ever know about these problems, and it makes no difference if they do.

This *is* a problem for the PCs if they're part of the shipping cycle. Having the wrong goods is likely to cost somebody money, and everyone involved will try to make sure it's somebody else. Things get more complex (and more adventurous) when the mislabeling was deliberate: an attempt to dodge customs duties or embargoes, or even to sabotage the recipient's business by depriving it of material stocks at a critical moment.

A gimmick that's been used in a million thrillers but is still worth an occasional try is the accidentally swapped label. Instead of the load of cheap portable computers the crew bought as speculative cargo, they get an identical batch that actually contains illegal control chips for military robots (or some other McGuffin).

Mislabeling is a problem for Cargo when it leads to improper handling. This may mean that fragile goods get broken, which is bad, but the port is not liable if the labels weren't there. It can also create a very dangerous situation, as when highly flammable goods, or those that react violently with moisture, aren't correctly identified. Again, sometimes this is accidental; more often, it's the result of a shipper wanting to avoid special-handling surcharges, or a captain in desperate need of money agreeing to haul a HAZMAT load for which his vessel isn't properly equipped. And once in a while the intention is purely illicit: incendiary grenades labeled as avocados.

An incident of this kind can lead to adventures for the port's Emergency Services (obviously) and the incident investigators; it may also involve unwary haulers losing their ship (or at least seeing it badly damaged) and going off on an "investigation" of their own.

The handlers can also load and unload ships, for an additional charge.

Most space freight is transported in containers, as described in pp. T:FT55-57. Starports (both downports and highports) possess a variety of devices designed to accept and transport these containers. Many of them are simply glorified forklifts and other cargo-loading vehicles.

These vehicles move the containers to craft that, in turn, transport the containers to the surface of the planet (if on a highport) or to other vehicles that will take them to their ultimate destinations (if at a downport).

WAREHOUSING

Starports possess a large amount of empty space for the purposes of holding cargo until claimed and transported. In most cases, these are simply large, enclosed facilities. They may be located above or below ground at a downport, depending on needs and conditions. A *transit shed* is a warehouse located at a berth, for temporary storage of cargo just prior to loading or after unloading. In standard freestanding berths (see p. 76), the transit shed is simply the space around the landed starship, but still inside the walled berth.

Other warehouses are used for long-term storage, particularly of duty-free goods passing through the starport's XT zone. They are normally centralized, away from the high-traffic sections of the port, some within the XT line and some outside in the local startown. Those outside the XT line will be local, usually commercial, property and not operated by the SPA.

In all cases, warehouses are secured against theft by a variety of means. SPA realizes that the security of cargo awaiting transport is an important concern of merchants and corporations using their facilities. Standard SPA warehouse security measures are heavily automated, with a computer program linked to a variety of TL10+ sensors providing the first line of defense, and human security personnel only summoned when a problem is detected. Port directors have the authority to customize their security measures, however. A thief with all the electronic countermeasures for standard SPA sensors might find a not-so-easily-spoofed security guard on site . . .

Warehouse Needs

Standard shipping containers are weatherproof, and can be stored in the open on habitable worlds simply by stacking them; this area often will be fenced to control pilferage. On most worlds with hostile atmospheres, containers may be transferred directly from one vessel to another without special protection, but require environmentally sealed warehouses for extended storage.

Temperature-controlled containers, which run on power cells, are usually connected to line power for storage, to prevent damage due to cell failure.

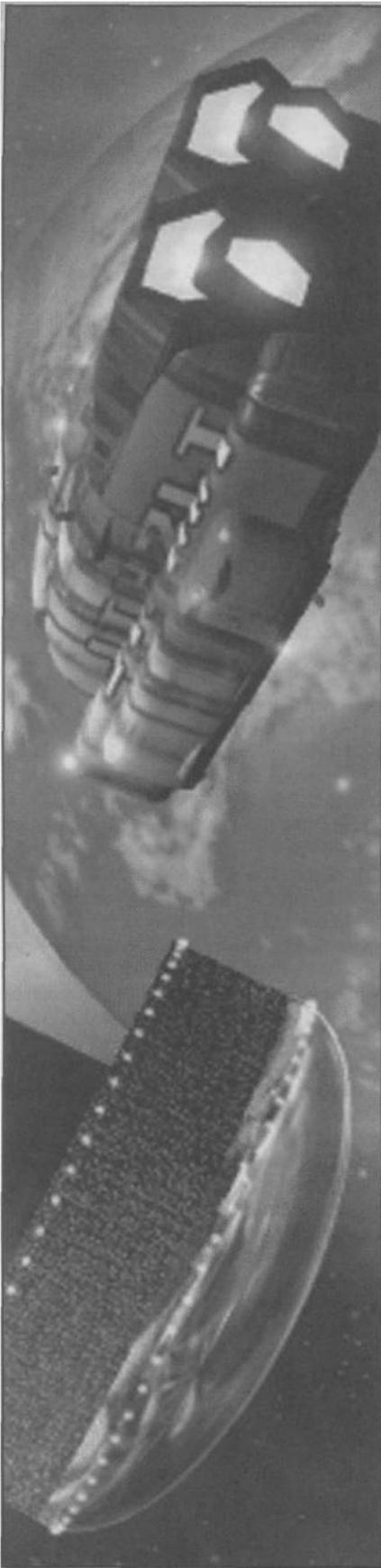
Breakbulk cargo - goods on pallets, or in individual bags or crates - needs some sort of storage structure, both for protection and to keep the shipment organized. This may be an open structure (a roof and racks), but enclosed warehouses are preferred for security reasons.

HAZMAT STORAGE

Hazardous material storage facilities are required at most ports. Where only small quantities of medium-risk materials are handled - fewer than 100 displacement tons per month of industrial chemicals - this can be a section of a conventional warehouse with fireproof bulkhead walls, limited access, and fire-control equipment, though most designers prefer a separate building.

If larger quantities of material pass through the port, or high- to extreme-hazard materials (such as high explosives) are included, a separate HAZMAT building will be utilized.

In addition to the HAZMAT facility itself, most major Starports will also have a building devoted to storing chemicals and equipment for dealing with HAZMATs. These are, often enough, HAZMATs in their own right! This building may or may not also house a team of individuals skilled in dealing with hazardous materials. (Even the largest Starports rarely have a full-fledged HAZMAT team on duty at all times. Most make do with seconding members of the CFR teams when necessary.)



TAS and the Weary Traveler

The Travellers' Aid Society provides a variety of services to the interstellar traveler. The following expands the p. GT35 descriptions.

TAS hostels at Class V Starports offer rooms ranging from comfortable to mildly luxurious for a price averaging two-thirds market norm. These do tend to be fully occupied 20% of the time unless reservations are made.

Perhaps of greatest importance to the interstellar traveler are the TAS travel advisories describing hazards throughout the Imperium, including more detailed information on why a world has been classified as an Amber or Red zone. Every TAS office also has copies of *The Journal of the Travellers' Aid Society* for the use of its members. For a small fee, electronic or hardcopy versions of the *Journal* may be purchased. In addition, TAS provides access to the latest reports from the *TravellerNewsService*.

Many TAS hostels have an on-site dining area that may be used by members and their guests. As with the rooms, the cost of the meals is partially subsidized by the society, making them comparatively inexpensive. Such dining areas are a popular meeting place for members and their guests.

At Starports with TAS facilities, TAS leases space for a small member-reception area, essentially a customer-service room in which the TAS member can receive directions to the various services. TAS traditionally uses a real person to provide this aid, and these TAS agents take great pride in their conciergelike ability to obtain *anything* legal for a TAS member willing to pay the price. Sold-out concert tickets, the latest beta-analysis software for the local stock market, a platinum-cased laser cigarette lighter, *anything*. An interesting campaign could be formed by placing PCs in this role.

At other ports, TAS members must rely on the port's Passenger Services offerings, the same as anyone else.

HOSPITALITY

This office is in charge of amenities and comfort for travelers: lounges, food service, entertainment. Concessionaires usually perform the actual operation of services, but hospitality inspects them for quality of facilities and service. In the absence of concession services, hospitality will run necessary operations such as restaurants and hotels directly. (This also happens when a concessionaire has been evicted for contract violations.) They also operate public waiting lounges. Large starlines sometimes maintain lounges for their passengers' exclusive use. Most of these are leased space equipped and maintained by the line, but the hospitality office operates some for a service fee, in addition to rent.

Hospitality also has charge of the port's interior design and decoration, including directional and informational signs. High-profile major ports employ professional architects and designers to create their "look," but hospitality has the task of buying the carpet, fitting the upholstery, and hanging the interior art. It also has authority to modify a concession's appearance to suit the port's overall design.

HOTEL ACCOMMODATIONS

Travelers spend a lot of their time in starport hotels - probably more than anywhere else except aboard ship. It is where deals are done, missions planned, scams run - where people meet other people for every purpose from romance to murder.

A concessionaire usually operates transient housing, although hospitality will run hostels and a "standard" facility (see below) if no outside operator is available or interested.

Hostels provide minimum accommodations at a minimum price. The regulars call them "Warm Low" or "The Slushpond," indicating the usual clientele. The guest gets a bed with clean linen, a small locker, and the use of toilet and shower facilities. A few hostels are laid out barracks-style, with all the cots in

one large room (some privacy is usually provided by curtains); most have rooms with four to eight beds; some are "slotshops" (see pp. 107-108). The manager will try to give groups (families or ship's crew) their own room, but this is not guaranteed, and sometimes depends on the willingness of earlier arrivals to move. Hostels do not serve food, and forbid bringing in outside food for the sake of cleanliness.

Starport hotels are not flophouses (which can readily be found in Startown); they maintain standards of hygiene and behavior. An excessively grubby individual may be required to shower before bedding down, and guests who become obnoxious can be ejected without refund by security - from the hostel, or the entire port.

A hostel room costs Cr10/night, Cr50 for a week (longer stays are discouraged, though not forbidden). Those willing to help sweep up, make beds, and scrub the bathrooms each day pay half price.

There are some charity hostels, operated by private organizations and religious groups, which do not charge for beds; they operate on donations, and usually require a little cleanup work from the guest. The charity may run an adjacent "soup kitchen" providing cheap or free meals, though not every port director allows this kind of operation. (Some port directors, recognizing the need but not wanting it on their property, subsidize charity accommodations in Startown out of their discretionary funds.)

Standard-class rooms are what one would expect to find from the name: basic, reasonably comfortable furnishings, video entertainment, and a dataport. About 90% of all starport rental accommodations are standard class; most such hotels have 200-300 rooms.

Some standard hotels, especially on highports, are built from modular starship staterooms; this is a quick and inexpensive method of construction, but most travelers get enough of stateroom life on the voyage, and want something more "building-like."



A standard room costs Cr50-100/night for one or two persons, depending on service and the demand for rooms, with a 10% discount for stays of a week or more.

Luxury rooms are exceptionally large and comfortable, with fireplaces, fancy bathrooms, oversized beds, and spectacular views (real or holographic). The presence of luxury rooms depends on the port's traffic pattern, though even a Class II port (if it has a hotel at all) will have one or two "imperial suites" just in case a customer shows up. (Old hands call these rooms "sucker plush," because of their popularity with interstellar con artists who rent the room to impress the locals before selling them stock in the Jump-10 Drive, FTL radio stations, or Great Rift Platinum Mines Ltd.)

A luxury room starts at Cr250/night and goes up; the super-plush suites at wealthy resort worlds can easily reach Cr1,000 or more.

Extended-stay rooms serve business travelers who need to stay at or near the port for several weeks, but not long enough to justify a regular apartment - for instance, a visiting engineer supervising a construction project for five or six weeks. In some cases, such as industrial-plant worlds, there *are* no suitable apartments; a company on such a world may rent rooms on a yearly basis to guarantee accommodations for its "visiting firemen."

An extended-stay room may be furnished to standard or luxury standard, but is generally larger (typically a two-room suite) and has a kitchen area.

These rooms cost the same per night as a conventional room of the same amenity class, but have a minimum stay of two weeks (longer if demand is very high), with partial or no refunds for early departure.

PASSENGER ASSISTANCE

This office answers questions from lost or befuddled travelers. It should not be confused with the Travellers' Aid Society (see sidebar, p. 32). Passenger assistance officers need to know the port's ground plan by heart, speak at least two languages, and have infinite patience with people who definitely need something but are not always certain what it is. PA officers are also familiar with TAS services available in the system, and will direct members to the nearest TAS representative.

BAGGAGE

"Baggage" is passengers' personal belongings, defined as anything transported within the personal allowance of each class of passage. (Anything above this is treated as "cargo.") Baggage handlers have the same basic skills as cargo handlers and belong to the same union, if there is one. Because many of them come in direct contact with passengers, they are expected to maintain a tidier appearance, and politer manners, than freight handlers. Most, and all supervisors, have at least some minimal level of Savoir-Faire (Servant) skill. Some work "both sides of the port," moving between baggage and cargo as interests or traffic needs dictate.

PASSENGER TRANSPORT

This service moves people from the terminal building to their ships, and vice versa. At small downports, passengers may simply walk out of the building and onto the vessel. Large downports use a "satellite" system; the ship is moved from its berth to a staging area, and passengers are conveyed from the terminal to the ship by slidewalk.

For security reasons, off-port transport such as light rail does not cross the XT line; passengers must disembark outside and enter through the gate. Vehicular traffic (mainly pickup and drop-off of passengers) may be accommodated in a lot within the line, but separately fenced. For more information on off-port access, see p. 69.

SECURITY

Starport security is a police force, not a military one. Most of the work consists of uneventfully waiting on station or roving the corridors. When security problems do occur, most are petty crime: shoplifting, pickpocketing and luggage theft, minor vandalism - and the officer rarely sees these things happening; they're reported after someone notices the crime.

Imperial CRs and Carry-On Firepower

The Imperium allows anyone to *own* any weapon short of thermonuclears and biologicals. It does not usually extend the privilege of *wielding* them in Imperial facilities; its Starports and other offices generally have Control Rating 5 - visitors may not carry weapons.

Several exceptions exist. Starships may possess integral weaponry, of course. Anyone may possess weapons properly stowed as cargo, but that cargo may not enter certain critical and public spaces. Tenants usually have the right to set their own policy - so a free trader captain can allow sidearms in his berth for the week he occupies it, or a starline could allow weapons in its leased concourses. (Most starlines enforce CR 5 themselves, requiring personal weapons be checked to the ship's locker.)

Port directors have the authority to lower this CR. Most directors only enforce the *local* CR on the unroofed grounds of a downport, so that truck drivers on wild worlds don't have to check their weapons to pick up some freight. A few directors lower the CR a bit in terminals and public spaces, on worlds where everyone packs a pistol.

If bullets, laser beams, and the like do start flying, Security has the task of ending the situation *quickly*.

A few bystanders may also be armed, and feel the urge to help Security, thereby complicating the issue. The problem is that Security has no way to distinguish those helping out and those who started the situation - and rarely will bother to try.

In Imperial space, effective weapons CR becomes 0. Customs and other Imperial enforcement do not care what kind of personal weapon you carry aboard ship - as long as you don't point it at *them*.

Crime and Punishment

The crime found in most Startowns (pp. 44-47) can spill across the XT line and onto the starport itself. Security prefers to cooperate fully with local law enforcement in dealing with crimes that originate outside the port.

Unfortunately, worlds with low control ratings or with a high degree of corruption exist throughout the Imperium. These places can be sources of great consternation for a port director. Legal prosecution may be the only protection the port has from organized crime, and if the local government won't prosecute, then the only answer may be an Imperial charge (if one can be found - Imperial law does not cover many "low" crimes unless they take place on Imperial territory - i.e., the starport proper).

Local Contraband, or, Can You Import Fireworks on a Methane World?

Few items are illegal on Imperial territory, within a port's XT line. (The nuclear and biological weapons mentioned elsewhere are notable exceptions.) The rules are often very different outside the line on a non-Imperial world.

Worlds that have the will and ability to ban items can be expected to disapprove of those very things being freely available just on the other side of a fence, and there is often a steady stream of more-or-less-polite official protests filling the planetary liaison officer's in-disk. What does the PLO do?

This is one more case of "director's discretion," meaning that the director, after consulting with the PLO, and often the local government as well, sets a policy, and - at least as important - decides how it shall be enforced.

The policy chosen depends very much on the actual threat presented by cross-line smuggling. A government that bans red licorice whips as a threat to the dental health of its citizens will get a different response than a world plagued by violent gang warfare that wants to stop the import of large-caliber small arms. However, the director is not empowered to contradict Imperial law, and in the Imperium both licorice and 15mm Magnums are legal for sale.

The basic levels of response, from trivial to serious, are:

- One or more signs at the port reading (in all appropriate languages), "Compliance with local import regulations is the sole responsibility of the individual traveler," followed by a datapage code to read those regulations.

- Signs citing specific banned items, sometimes with a description of the applicable penalties (where appropriate, "death" is always mentioned).

At these levels, there is nothing to enforce - you can't *make* someone read a sign. Customs officers who observe passengers with contraband items may advise them of the legal situation (as they always will if asked), but cannot seize the items or take any other direct action.

- Labeling of items for sale with "May Not Be Imported to This World" or the equivalent.

- Labeling plus a form at point of sale, to be signed by the purchaser, affirming that the purchaser knows the item to be local contraband.

Continued on next page . . .



Despite the relative boredom of their job, security chooses its officers carefully. In Starports without a marine garrison (the vast majority of them), security represents the only line of defense against would-be terrorists and other wrongdoers. A port director would be foolish not to ensure that he had the best trained and most vigilant security force at his disposal.

TACTICAL TEAMS

Some ports have SWAT-style teams to deal with hostage or terrorist situations. SPA has no internal consensus on the value of tac teams; some officials contend that military operations are properly handled by the military (the port's marine garrison), and maintaining a tac team keeps security personnel in expensive training.

The counter-position is that the majority of starport "tactical" situations call for minimizing casualties (even among the "hostiles") and collateral damage, neither of which are military priorities, and the military special forces trained in such "surgical" operations are almost never assigned to starport garrison duty.

The usual solution at minor ports is that the files of security officers with tactical skills such as marksmanship (usually these are ex-military personnel, anyway) are "flagged," and some special equipment, such as body armor and sniper rifles, is kept on hand to equip them in emergency situations. The chief will ask for volunteers for this special duty, calling on outside aid, if necessary. Hazard pay is, of course, earned for tactical duty.

At major ports, appropriately trained officers serve part of their time in rotation (typically one week out of eight to 10) as an on-call tac team, for which they receive a small pay bonus, plus hazard pay if the team is activated.

IMPERIAL CUSTOMS

"What do Imperial customs officers hate most?"

"Smugglers, hijackers, pirates, terrorists, and planetary customs officers. In ascending order."

The Imperial Customs Service is a division of the Revenue Department, but most of its field personnel work at the SPA's Starports. The customs office's primary task is not the collection of taxes or duties; in fact, most goods at most worlds are not subject to any Imperial duty. The main exceptions are "special levies" intended to pay for new construction that are supposed to - and usually do - end when the facility is paid off, and duties on "luxury items." The Revenue Department typically defines works of art, expensive private vehicles, and ultra-tech weaponry among the many items in this category.

Since few Imperial duties need be collected, customs personnel keep busy with other duties, including:

- Monitoring arriving vessels, looking for hijacked or stolen ships, or those wanted in connection with piracy or other Imperial crimes; similarly, apprehending wanted persons attempting to leave system space.

- Verifying medical records of arriving persons and biological cargoes, and enforcing any quarantines.

- Escorting vessels, and protecting Imperial officials and nobles, on Imperial business (usually in conjunction with other agencies).

- Dealing with matters involving the XT line, and conflicts with planetary sovereignty, including enforcement of the right to asylum and free interstellar movement, and cross-line extradition of persons denied asylum.

Many of these duties overlap those of the SPA's security personnel. Being that different Imperial agencies oversee each, there are separate administrative offices, with overlapping authority, for security and customs at all ports. The responsibilities of the line office likewise overlap in places with those of the customs service. This situation creates all manner of confusion at times, but is the price the Imperium is willing to pay for safety.

What customs may not do is interfere with customs procedures outside the XT line, *even if* those activities violate local law. A planetary customs station (it will be right outside the starport gate) may conduct any kind of search and charge any sort of duty it wishes. If the world has a customs fleet, it may stop vessels for whatever purpose (though most worlds have the sense not to interfere with vessels on Imperial business). Victims of shakedowns may file complaints with Imperial customs, and these will be forwarded to the local authority, though action may or may not be forthcoming.

Planetary customs offices have a reputation for corruption. Even though the majority are entirely honest, the bad ones tend to be very bad indeed, and get all the publicity. Because of this, the Imperial service is diligent, even ruthless, in keeping its own name clean. An officer caught on the take *might* not be prosecuted for treason, and *might* not get the death penalty, and *might* eventually see starlight as a free man again, but his subsequent life would not be a merry one. While all Humaniti is fallible, for the purposes of most adventures Imperial customs is incorruptible.



Local Contraband, or, Can You Import Fireworks on a Methane World?

[Continued]

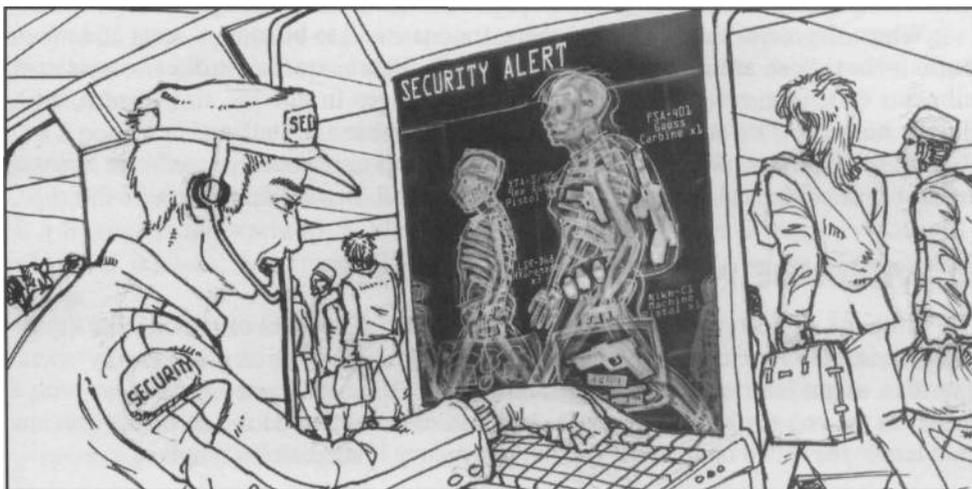
These measures are the responsibility of the seller (including the port itself, if it is the seller). Security collects copies (paper or electronic) of the release forms every business day.

- All the above measures, plus an electronic background check on the purchaser, conducted by starport Security. If the check shows an outstanding warrant (a rare event), Security will make the arrest. If it shows an indication of possible trouble (e.g., suspicion of arms smuggling), Security may pass this information to planetary law enforcers. This is formally the decision of the director, though he may empower a subordinate to act on such cases. Usually the planetary liaison gets this responsibility.

Since the Imperium may not interfere with business unless it violates Imperial law, this is the maximum level of control allowed within the starport. Security officers have been known to push the rules by applying pressure to the suspected smuggler - maintaining highly visible surveillance, conducting "routine" spot checks on baggage - hoping to worry the subject into doing something actionable. Unfortunately, most career smugglers are unaffected by these maneuvers; it's political dissidents and other amateurs who lose it under stress.

A particularly delicate case of local contraband is intellectual material: literature or art with content the local government has labeled as politically or morally dangerous. The port staff may be profoundly in sympathy with the illegal ideas, or at least against censorship, but if they are perceived to be assisting its infiltration across the line, port/planet relations are likely to worsen dramatically (and in such circumstances they probably weren't very good to begin with).

This sort of conflict has considerable opportunities for roleplaying, with players as either the smugglers (presumably agents of a larger political campaign against the repressive planetary government) or the customs staff caught in the crossfire.



Trojan Hearses

An emergency call requires that some security procedures be bypassed for the sake of time - which in trauma care translates directly into lives. "Bypass security" is a phrase that puts ideas into some people's heads.

A fake emergency - or even a real one - can be used to get thieves, pirates, terrorists, or people who just want to park in the hand-icapped spaces past the starport's first-line defenses. No security system is infallible, and it just isn't acceptable to risk lives on the long odds that a distress call is phony. It doesn't always work, though.

Most ploys of this sort involve impersonating Medical or Emergency Services personnel. Some points to keep in mind, however:

- Security officers are always stationed at the port's medical facility, and they will not hesitate to send a silent alarm if things look fishy or a medical team isn't familiar.

- A large number of port Medical personnel are former soldiers - combat medics and regular troops who became orderlies or physician assistants after retirement. Even civilian EMS responders don't spook just because someone points a gun at them. Obtaining access to the gear with which to pull this stunt may be a fight in itself.

- Issuing a fake distress call is a serious crime even if you don't have further wrongdoing in mind. Shooting up hospitals is the kind of stunt that gets people classified as "terrorists," even if they were purely in it for the money. And terrorist acts don't bring out the best in the people sent to apprehend the actors.

Kinetic Containment Blankets

A K-blanket is a 10-square-yard sheet of multi-ply ballistic cloth. Its main purpose is to prevent debris from being scattered from a vessel that is out-gassing or might explode.

One or several blankets are spread over the area at risk by a CFR crew in vacc suits with maneuvering thrusters, and fastened (generally directly to the vessel's hull) with mounting anchors fired from an explosive impact tool. It is usually left loose around the edges, so that gas pressure can escape while solid objects are caught.

K-blankets can also be used to smother fires in atmosphere, and to wrap explosive material - crates of ordnance or actual bombs. Crews on the spot have found numerous improvisational uses for them, such as catching vacc-suited survivors who are tumbling away from the rescue area.

This does not preclude adventures built around investigating possible corruption at a customs post, or swindlers pretending to be Imperial customs officers. When there *are* genuine bad apples, their motivation should be much deeper than, "I wanted the money." Needless to say, the incident described on pp. GT36-37 involves a planetary customs service.

MEDICAL DEPARTMENT

All ports have some kind of first-aid station. At a Class I port, this will be a kit of supplies. Class II ports are required to have at least one person on duty with formal first-aid training. At Class III and larger ports, there is an infirmary with a nurse on duty. Major ports have at least one doctor on duty at all times, one or more assistant Medical officers, and a nursing staff. The infirmary of a Class V port will have a fully equipped surgical theater, several automeds, and usually a specialized trauma team on constant call. Low berths are not generally present:

The infirmary's purpose is first response, not long-term care. Persons requiring freezing are either returned to their ships or moved to an off-port hospital.

Regulations require an emergency aid station in work areas - first-aid supplies, eyewash fountains, emergency showers, and so forth.

At small ports, CFR paramedics (see *Emergency Services*, below) will provide first-response care and bring patients to the infirmary for evaluation and further treatment. If many casualties are expected, additional Medical staff rides to the site on CFR vehicles. Major ports have a dedicated ambulance, usually a grav vehicle. If there is no planetary trauma center within easy reach (10 minutes or less by G-carrier), a major port will have its own, with a trauma team on continuous call. Class V ports usually have a rapid-response vessel at the highport (see pp. 95-96).

At freight-heavy ports, most of Medical's work is trauma: materials-handling accidents, falls, vehicle collisions, from the minor to the gruesome. Work in orbit has an additional set of hazards: decompression, radiation, docking collision, etc.

Where the major traffic is passengers, traumas tend to be minor - cuts and minor burns - but there are more internal problems: heart attacks, strokes, respiratory ailments (often aggravated by environmental changes in gravity, air pressure, etc.). Traffic bias therefore determines the type of equipment and staffing.

Where planetary relations allow, there will be cooperative treatment and care arrangements between Medical and local hospitals (see *Outcall Services* sidebar, pp. 38-39).

EMERGENCY SERVICES

All ports have some kind of disaster preparation. The level of staffing and equipment varies, but it is understood that an emergency is *always* first priority. Any operation that might interfere with disaster response will be suspended (unless, as with a vessel in the last seconds of approach, it would only compound the problem), and any port employee called on to assist with an emergency immediately complies.



EMERGENCY OPERATIONS CENTER

Major ports have a dedicated emergency ops room, with comm links and data displays that allow disaster and rescue operations to be coordinated across the vast expanse of the port. During the operation, senior officers from all affected departments will be there to direct their subordinates, and usually the port director as well.

Minor ports caught in a large "incident" have a more modest (though not less professional) response. If central coordination is necessary, a desk with adequate data links will be taken over for the duration.

CRASH, FIRE, AND RESCUE

CFR is the primary emergency-response service - the port's firefighters, paramedics, and hazardous-material (HAZMAT) first-responders.

The main CFR emergencies are:

Fire. The first priority with fire is control - preventing it from spreading. Once the fire is contained, it can be extinguished or, if there is no risk of spread and nothing appears salvageable, allowed to burn itself out. Fire in public areas requires that people be guided out of danger; this is usually security's job.

Physical trauma. In an accident, people may be crushed by containers or machinery, or caught in fires or toxic releases. CFR's job is to get the victims out so that Medical can treat them. This may call for hydraulic or grav lifters to clear debris, access hardware to reach the victims, and always the right protective gear for the rescuers.

HAZMAT incidents. The list of hazardous materials around a starport is gloriously varied: toxic chemicals, volatile solvents, fuels, oxidizers . . . and that doesn't even take cargoes into account. HAZMAT substances are supposed to have ID code labels. A handheld scanner can read these from at least 10 yards and instantly display the proper handling procedures, including proper protective gear, fire control, and evacuation distances. Using powerful binoculars, labels should be readable from evacuation distance (usually *at least* 100 yards - 10 times that or more for extreme toxics or high explosives). Of course, sometimes the labels are out of view, or smoke blocks the scanner beam, or the labels are missing or wrong. The life of an emergency response team member is often exciting.

Crashes. A spacecraft crash is, at least potentially, every kind of disaster at once. Fire is common, crew or passengers usually need rescue, and anything hazardous on board is very likely to have its containment ruptured - a wave of liquid hydrogen fuel will severely injure anyone it washes over, turn objects brittle or shatter them, and is highly flammable for good measure.

Space hazards. Accidents in space have their own special features. Vacuum has one small benefit - decompressing an area will extinguish any fire that does not have its own oxidizer. Victims, however, must be protected from it (a human being can last four or five minutes in vacuum, especially if there is time to prepare, but not longer), and victims and hazards cannot easily be located by sound. Zero-gee can make it possible to surround a hazard site, but only trained personnel can operate effectively in weightlessness. Only the largest ports (and those with highport facilities) will have specially-trained team members capable of acting in zero-gee. Smaller ports often call upon skilled outsiders to assist them in dealing with these unusual hazards.

Another particular hazard is "foreign object damage" (FOD) — debris flying from an accident site, sometimes at considerable velocity, with nothing to stop it. A cluster of flying fragments across the path of an incoming vessel can have the effect of a fragmentation warhead. K-blankets (see sidebar, p. 36) are a method of controlling FOD releases; any space CFR operation will be followed by an FOD cleanup sweep.

CFR preparedness includes:

At Class I ports, personnel are cross-trained in emergency procedures, and there is protective and fire-control equipment of some kind. A disaster calls for shutting down the port, and everyone not absolutely required elsewhere donning protective gear and pitching in.

The Starport as Hospital

On some worlds, the starport infirmary may be the only real medical-care facility. The infirmary may as a result be larger and better equipped than the port's needs require. Such a facility cannot recover its costs, even if service fees are charged. The Imperium accepts these losses, writing them off as "frontier development" costs.

This can lead to interesting situations on neutral or hostile worlds. An adventure could involve smuggling a seriously ill relative of an important planetary figure across the XT line for treatment; the dignitary might ask for the aid or be completely hostile. Fanatically anti-Imperial locals would not approve of any "acts of mercy" that might soften local hostility - and the death of the patient while in Imperial hands would be just the thing to harden it.

Starport Medical staffs often are the first to discover new contagions arriving from offworld. On frontier worlds, they might take the lead in combating the menace planetwide as well.

The Starport as Disaster Agency

In planetary disasters, the starport naturally becomes a center of operations. It is where support from offworld - experts, equipment, food, and medicine - will arrive and be dispatched to where it is needed. It may also be the only place where large numbers of victims can be temporarily housed and fed - or, in the case of a plague outbreak, isolated and treated.

SPA has a special operations office that provides assistance to its ports (and, if requested, to non-Imperial ports as well) in such situations, by dispatching additional staff and supplies, and, if necessary, a fleet of "isolation shuttles" that allow commercial vessels to deliver cargo to quarantined worlds without risking a landing themselves.

If the port itself has been damaged, the SPA's first priority is naturally to get it operating again; this may not be properly understood by suffering locals.

A major disaster is one of the biggest, messiest, nastiest things it's possible to throw at a group of characters. There's always more to do than people or material to do it with; any number of people know for a fact that they need help, and disagree with varying degrees of politeness about how much more they need it than the next person. On single-industry worlds, the corporate owner may have a completely different agenda than the working population *or* the relief experts.

Outcall Services

On all but opposed or essentially uninhabited worlds, there is some kind of arrangement with the local fire and medical services for providing responses across the XT line.

Outcall services reduce the requirement for emergency staff and equipment at the port, and - at least in theory - creates a sense of mutual concern between port and world. Fires, after all, do not stop at political boundaries.

Over the years, SPA has established a series of protocols to aid a port director in dealing with local authorities on these matters. These protocols are not fixed rules; they are guidelines that *may* be ignored at the discretion of the director. With so many pressing concerns, however, a director rarely ignores these protocols.

The two key points of outcall agreements are the conditions under which responders can cross the XT line, and payment for services performed by emergency personnel from the "other side."

Mutual Aid

Emergency responders may cross the XT line freely in performance of their duties. Local ambulances take critical patients to the port infirmary if it is nearer than any planetside trauma center. Portside paramedics go to planetside hospitals if they have the most appropriate facilities (which could mean a severely burned patient needing a specialized burn unit, or locals who are not critically injured and can be moved to hospitals near their homes). Firefighters answer calls within a reasonable distance (defined on area maps; in practical terms, it means "close enough to get there in time to do some good and not to leave the port unprotected").

No special charges are made for these cross-line runs by either side. It is assumed that the costs will balance out, and it has been the experience of starport financial officers that this is generally the case. When an imbalance results, it is usually not the result of organized intent to misuse the system, but a demand imbalance. Good examples of this would be an unusual number of fires (on whichever side of the XT line), or local employees who are not seriously ill using port ambulances as taxicabs to their own doctors. These problems can generally be solved at low level - by finding the cause of the fires, or insisting that employees be triaged at the infirmary before calling an ambulance (or providing free taxi transport, which is orders of magnitude cheaper than any ambulance run).

Continued on next page

At a Class II, the emergency unit is mobile, typically on an air/raft (see p. GT 147). There are unlikely to be dedicated CFR staff, but there will be a disaster plan with designated team leaders and responsibilities.

Class III ports and above have full-time CFR teams. Larger ports have more personnel and more equipment. All team members are paramedics trained in fire control, HAZMAT procedures, and rescue. As necessary, special-duty teams (space operations, explosive-ordnance disposal) are maintained.

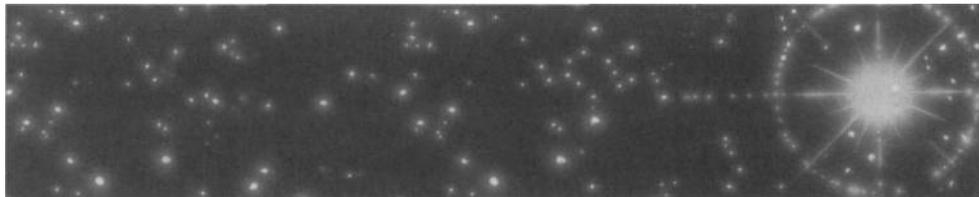
As with the Medical department, CFR has cooperative service arrangements with planetary emergency services wherever the political situation allows it (and sometimes when it allows no other kind of cooperation). See the *Outcall Services* sidebar.

FLIGHT OPERATIONS

Flight Ops is the port's aerospace arm: the pilots and flight crews of shuttles, fuel carriers, tugs, and so on. The importance of a port's Flight Ops department is largely determined by the size of a port's orbital component. That is, ports without an extensive highport will not need a significant Flight Ops department.

Ports that do have a highport will require the services of a large number of pilots and crew for the operation of a port's own vehicles. Shuttles to and from orbit are the most common of these vessels. There are also a variety of maintenance craft, such as tugs and fuel carriers, that need certified pilots and crews.

Even at ports without a highport, there usually will be a small Flight Ops department to handle routine aerospace matters such as maintenance of traffic-control satellites.



PHYSICAL PLANT

This department maintains and operates the port's infrastructure. Its operating divisions are:

ENGINEERING

This is the maintenance service for everything belonging to the port, except spacecraft. Engineering lubricates and repairs machinery, changes light bulbs, resurfaces landing pads when somebody gets careless, etc. Engineering naturally works with every other department, and because every department thinks it needs an engineer, *right now*, more than any other, engineering staff usually have semi-permanent assignments (such as transport or power functions) so that no essential service gets stuck at the end of the queue.

POWER

This division is in charge of the port's main electrical supply, usually one or more fusion plants. Large ports will have decentralized power generation, so that a failure (or attack on) one unit does not black-out the entire facility. At small ports, power and engineering operations may be combined.

DATA/COMMUNICATIONS

Of related interest are the data/communications facilities at a starport. Though Traffic Control has the greatest needs, nearly every department requires quick and up-to-date access to information about the vessels in the system, their flight plans, manifests, etc.

The primary communications net of a major Imperial starport is based on meson communicators, but secondary communications may use lower-tech methods, particularly on low-tech planets. Local concessions are usually given "telephone service" compatible with the local system, wireless or landline.

Data/comm is also responsible for monitoring the function of the network of navigational, meteorological, communications, and relay satellites, which at the largest ports cover space out to the 100-diameter jump limit.

TRANSPORT

Ports require large numbers of surface vehicles, to move people and property over the considerable distances between everything. In addition to grav buses and trucks, many large ports have a guideway system (light rail, monorail, or suspended). The vehicle operators belong to the transport office. (An exception is cargo-loading vehicles, which are operated by freight-handling drivers.) Transport also keeps track of the equipment, and checks for needed maintenance.

CENTRAL STORES

This division is where all the port's consumables are stored. At the smallest ports, this will be a storeroom or shed; at the largest, the stores fill a complex of warehouses - machine parts, chemicals, bulk food, refrigerated storage, and on and on. Storage is usually at least somewhat decentralized for convenience - commissary and restaurant food stores will be near the terminal building, starship parts close to the berthing areas.

Central Stores has a fleet of delivery vehicles (operated by transport personnel) to move supplies where needed. Other delivery systems, such as automated conveyors or electric subway trains, may be used to serve particular needs.

Supplies

All Starports, to a varying degree, have a collection of storage units devoted solely to necessary supplies for the port itself, not its customers. Such necessities include spare parts, backup replacements, medicines, clothing, and even preserved food. Every eventuality is taken into consideration; SPA believes in being prepared *before* any of them happen.

Experience has taught that it is much more economical to set aside such supplies than it is to take a chance in not having them. This also serves the starport's tertiary function as an emergency base for Imperial Navy ships. Moreover, even if these stores are never needed by the starport itself, the locals may need them should misfortune strike them. Both the line office and public relations consider it a valuable service to provide these stores to those in need. Indeed, several possible scenarios relating to this are described in sidebars throughout this book.

Like everything else, the extent and depth of these stores will vary based on the size and needs of the starport in question. At the same time, every starport's stores will have sufficient materials to repair and/or modify the port's own systems, within reason. That is to ensure that no starport must ever rely upon the abilities or good will of locals in case of an emergency. SPA prefers to make each starport as self-sufficient as possible.

COMMISSARY

This is the employee food service. Staff is usually allowed to eat in the commercial restaurants (and may receive a discount), but many prefer the cafeteria, especially if they spend their entire working shift around passengers and crew. Commissary services are often contracted to a private operator.

HOUSEKEEPING

This service is charged with keeping the place tidy: washing windows, vacuuming carpets, emptying trash cans, doing the laundry. Housekeeping also handles any painting or landscaping duties that arise in port. Like the commissary, housekeeping services are often contracted out. Credential checking is necessary here, as well.

Outcall Services

[Continued]

A mutual aid agreement usually requires an affluent world with adequate emergency services (and, of course, a friendly attitude toward the Imperium). On less technologically advanced worlds, the matter can become somewhat more complicated. In such cases, the locals may be especially ill-equipped to assist in a disaster situation. It is on these worlds that a port is also likely to have its own internal CRT and emergency teams. Despite this, port directors will generally instruct their own teams to assist locals on these worlds. While there may be no obvious financial remuneration for such errands of mercy, the good will it engenders is usually considered payment enough.

Request Call/Chargeback

Under this agreement, fire or medical crews cross the line only when requested by the other side, and a fee will be charged for the operation. This is the most common arrangement. The reason for the request is to prevent one side from dispatching crews "just in case" and then demanding payment. One side may voluntarily dispatch (particularly in the case of a fire that might spread over the XT line if uncontrolled), but reimbursement is not guaranteed. It may, of course, be paid anyway, just as neither side is obligated to ask for repayment.

GravestExtreme

Even on the most fiercely anti-Imperial worlds, there is usually some sense that saving lives is more important than political disagreements. Agreements will be drawn up governing just when an emergency medical team can leave the port, and what kind of cooperation will be offered (from a straightforward "rescuers are inviolate" agreement to police guard). Sometimes this document is filed and immediately forgotten by both sides, at least until it becomes relevant - usually at an awkward time and under trying circumstances. There may be a reimbursement clause in such an agreement, but it will rarely be invoked.

PoliceEquivalents

There are no such arrangements with local police, since legal jurisdiction ends at the line. Of course, the line office and starport Security will cooperate with local law enforcement should the commission of a crime involve multiple jurisdictions.

Planetary Relations

The Cleon Doctrine

"We sometimes like to think that Cleon Zhunastu was more than a man, but I think that'd do an incredible disservice. Don't misunderstand me. Cleon I was a remarkable individual, a genius even. Yet Cleon's genius didn't follow conventional patterns. Let's be honest. Cleon was hardly the first man to found a new 'universal empire' to last for the ages. But he was one of the first to succeed so brilliantly.

"Living as we do over a millennium after Cleon's founding of the Imperium, we tend to overlook the little things this man did to ensure the success of his empire. Little things like the doctrines of non-interference in local affairs and the extraterritoriality of Imperial possessions, especially Starports. Together these two form what I like to call 'the Cleon Doctrine.'

"The genius of Cleon is that he created a way to simultaneously leave the governance of worlds to the people inhabiting those worlds and secure the presence of the Imperium on each and every one of them. In this way, no world is forced to accept a foreign master unless they wish it. At the same time, no world is left entirely to its own devices. Cleon found a way to balance both the laissez-faire and paternalistic tendencies that thwarted so many previous governments.

"That's why I say it does a disservice to consider him more than a man - a disservice to Humaniti."

*-from a talk given by
Archduke Norris Aella Aledon
at St. Regina University,
099-1120.*

An Imperial starport symbolizes the benefits of allegiance to the Third Imperium in a way that few other institutions can. It represents not only the prosperity attendant to interstellar trade and commerce, but also a sense of *connection* to something greater.

As an Imperial outpost on non-Imperial territory, an SPA starport must maintain good working relations with the local government to function anywhere near full efficiency. The Imperium asks even more than that of the SPA; part of its mandate extends beyond smooth labor markets and into the realm of applying Imperial policy and diplomacy.

This holds true regardless of whether the port is based on an Imperial world, client-state, or non-member system. The general difficulty of representing the Imperium tends to go up as the number of ties between Imperium and host planet go down, but even the port directors on core worlds must address a number of concerns between Imperial and local authority.

STANDARD RELATIONSHIPS

The Imperium and the local government hosting an Imperial starport maintain one of the following relationships. The SPA authorities on that planet usually will possess the responsibilities and concerns described, though circumstances will of course vary in individual cases.

IMPERIAL WORLD

The local government is loyal and subordinate to the Imperium. The locals, other than terrorist or criminal groups, will not interfere with starport operations, and any request for support or assistance made by the port director will be met if it is practical to do so. Likewise, the starport is part of the planetary community, and is expected to assist the local authorities in any way that does not compromise safe port operations. It is important to note that, except for some core worlds, the Imperium does not micromanage its worlds. The local government has its own budget and political organization.

FRIENDLY

The world either is not ruled by the Imperium or accepts Imperial hegemony while reserving the right to act independently on matters not of direct Imperial concern (for instance, allowing Imperial military operations to use the system as a base, but passing its own laws and printing its own money). The latter sort of world is what Imperials refer to as a client state.

The local government is satisfied with the presence of the Imperial starport, and generally tries to cooperate with it for mutual benefit. Most differences arise from economics - usually attempts by the locals to get the Imperium to pay for "port enhancements" such as inter-city highways that happen to go near the starport.

Friendly governments will ask for reimbursement when their emergency services assist the starport after a crash or other disaster, and are somewhat more likely than Imperial worlds to find ready excuses not to provide help. On the other hand, a director running at the limit of his resources can also draw the line on helping out the locals.

NEUTRAL

The world tolerates the port for the sake of its economic benefits, but considers that its responsibilities end at the XT line. The locals neither interfere nor cooperate with port management. Assistance, although sometimes given (especially if the world outside the line is threatened, as by a major fire), will never be voluntary.

Many non-aligned worlds will not have an Imperial starport in their system. To accept an Imperial starport is to accept the presence of SPA and all that it entails. Neutral worlds without an Imperial starport usually have their own starport; even those with an Imperial starport may build a competing starport.

The existence of an Imperial starport may have profound political repercussions. In a sector like the Spinward Marches, for example, the Zhodani Consulate or the Sword Worlds Confederation might well construe having an Imperial starport in an avowedly non-aligned system as a political statement. Given that the Fifth Frontier War is still fresh in people's memories in the Marches, it is easy to understand why many neutral worlds would prefer to make their own way.

OPPOSED

The world is opposed to any Imperial presence on "its" territory, including the starport. (The word "opposed" is used in formal documents to differentiate a political situation from worlds that are environmentally "hostile.") No overt action is taken, and the XT line is officially recognized - since to violate it would constitute an act of war against the Imperium — but there is no cooperation, and "unofficial" acts - ranging from insults and graffiti to vandalism and sabotage - may take place.

An actual disaster may force some joint action between port and planet. If the incident is within the port, the world may assist if fire threatens to spread across the line, or significant local assets (trade goods or locals' lives) are at risk. Of course, planetary authorities have been known to say that their own citizens who trade or travel through the Imperial facility "don't deserve" assistance. In planetside crises, Imperial policy is to assist local emergency services when possible. This as always is "at the director's discretion," and a port director is not required to commit the port's emergency medical personnel if there is reason to believe locals might attack them. These situations can provide interesting roleplaying for characters such as SPA staff, who may have to fight fire while under attack or planetary EMS personnel trying to protect the Imperials from their fellow citizens, or offworlders caught in the middle.

This category is a rare one. Worlds that are genuinely opposed to an overt Imperial presence tend not to allow the Imperium to build Starports on their property. As with everything in charted space, one could cite numerous exceptions to this general rule. One of the more common exceptions is the case of a world whose *government* supports the Imperium, but whose citizenry do not. On such worlds, resentment and even violence against "offworlders" may occur. Worlds of this type will often be designated Amber Zones.

Another variation on this theme is an occupied world, conquered by the Imperium and not yet fully integrated into it. Similarly, an Imperial world can suffer a change in government. The new government may not be inimical to the Imperium, but is unwilling to antagonize it with acts of outright violence. If the world is important enough (on a trade or Xboat route, for example), the Imperium may maintain a starport, despite local feelings. Other possibilities, like the Border Worlds of the Spinward Marches, can be cited as well.

AT WAR

The world has gone beyond simple dislike to overt acts against Imperial lives and/or property. The Imperium *always* responds to such actions with military force, though this may be limited to a marine garrison and economic sanctions (see below). It takes time for reinforcements to cross interstellar distances, or sometimes even to cross an orbit-to-ground blockade, and the port may have to endure two weeks or more of siege (for the fundamentals of seizing a starport, see the sidebar, pp. 12-13).



Extraterritoriality: The Law

Article VII - Extra-territoriality of Designated Imperial Possessions: "The governance and operation of Starports or other territories ceded to Imperial use is reserved to the Imperium. Movement of material and sentients between such territories and the member world shall be controlled by the member world, subject to Imperial laws governing such movement. Such territory shall be excluded from the jurisdiction of any member world, and no material or sentient shall enter such territories from any member world without the express consent of the governing Imperial authorities responsible for such territory."

- the Warrant of Restoration,
001-0000

XT Line: The Reality

The extraterritoriality principle dates back well past the First Imperium, and its lessons were not lost on Cleon I and his advisers.

In the Imperium, goods often must transit several star systems to reach their destination. If each star system is allowed to tax the transshipping goods, a huge barrier to trade results, because the final price becomes too high. So Imperial Starports create "free trade zones" - indeed, most observers agree this is their primary reason for existence.

But instead of stopping there, the Imperium took this right to suspend tariffs and duties and used it as the basis for suspending all local law, because the extrality principle has also proven extremely useful in matters not related to trade. The XT line makes the whole of the starport a safe haven for off-worlders. If nothing else, this provides a refuge when the natives turn hostile. Allowing Imperial companies and organizations a place to conduct their business free from local interference not only allows them greater influence on that particular planet, but also allows them to coordinate their activities across wider stretches of space. Everyone from megacorps to humanitarian aid agencies may have their offices in the starport on hostile worlds.

Imperial authorities may also use the safety of the XT line to protect more covert activities. All manner of "cultural attaches" or other undercover intelligence agents may use the legitimate activities of the starport to conceal their own nefarious doings.

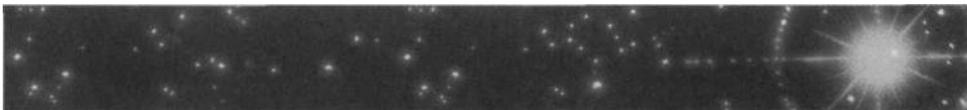
This category is not only rare, but temporary. While the Imperial Rules of War permit (under certain circumstances) conflicts *between worlds*, they do not condone actions that call into question the supreme authority of the Imperium. Most worlds of this type will be designated Red Zones.

THE XT LINE

Extraterritoriality (shortened to extrality or just XT) is the concept of a piece of ground within a sovereign state being legally the territory of another, distant state. A national embassy and its grounds are the best-known example. When someone steps through the gate of an Imperial embassy, he is standing on Imperial soil, although the rest of the world around him usually will be under local domain.

In the same way, Imperial Starports on non-Imperial worlds are part of the Imperium, and within the starport boundaries - the XT line - Imperial law replaces all planetary law, or lack thereof. Even an Imperial world has an XT line; though the world already should be enforcing all Imperial law, it usually will have thousands of its own laws that do not apply on purely Imperial property.

On an Imperial or friendly world, a simple fence may indicate the line. On worlds actively hostile to the Imperium, the line may be a heavily patrolled fortress wall. In either case, the XT line likely will create many of the port director's most complicated and delicate problems.



The SPA's missions of promoting good relations with the local government and enforcing the XT line often directly conflict with one another. The port director and his staff will have to delicately balance these priorities. The line office (pp. 20-21) handles most of the street-level negotiations. More drastic options include:

ECONOMIC SANCTIONS

If political frictions cannot be smoothed over, the port director can take the rare step of imposing economic sanctions. A director can, by his own authority, shut down a starport and restrict access to it. In cases where violent activity or war has broken out, a starport will sometimes be closed to prevent the flow of weapons and other materiel. A director may also close a starport (or at least prevent Imperial citizens from crossing the XT line) to prevent the flow of *any* goods at all.

This is a dire power, and rarely exercised. To prevent even food and other essentials from arriving on a planet endangers the safety of the port and its SPA personnel. Shutting down extrality will drive most trade away from the planet.

A slightly more common example occurs on balkanized worlds with several distinct downports. On such worlds, a director may shut down one or more downports as part of a program of economic sanctions.

MARINE GARRISONS

Should a host world seem likely to use military force against an Imperial starport, the port director can request a contingent of Imperial Marines.

The garrison's commanding officer (usually a captain or major) will be under orders to obey the director's general commands. The director may *not* order specific tactics, simply overall strategic goals. The Marine officers retain their own authority to determine how those goals are to be obtained. The line between these split strategic and tactical commands can be hazy.

A military liaison officer (p. 24) handles most of the day-to-day management of the garrison's activities, but only the director (or a deputy to whom he has delegated the authority) can command the troops in action.

Marine garrisons are uncommon in the core of the Imperium; Security officers handle routine law enforcement. Some worlds require an Imperial military presence, however. Even then, garrisons are rarely larger than 500 troopers.

HARDLINE

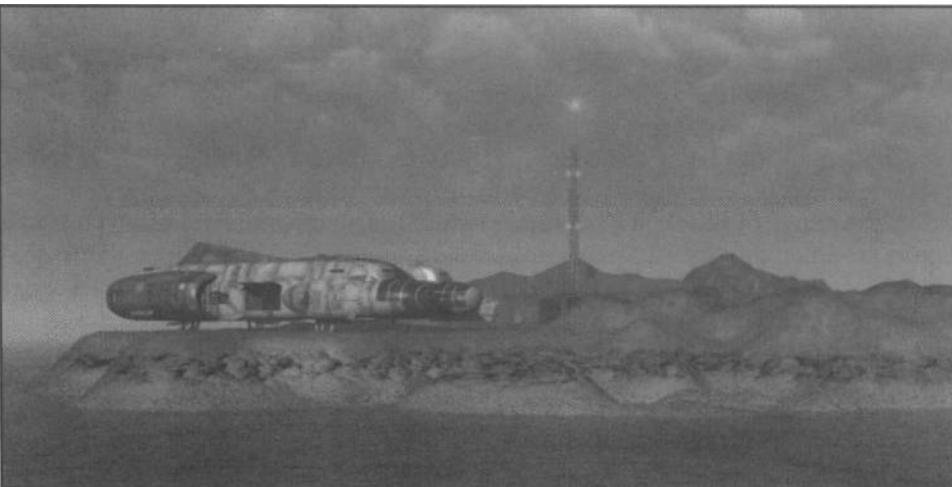
When a world is unfriendly or opposed to the Imperium (for whatever reason), the port is said to be in a hardline condition. Hardline is a political state, and does not always mean physical barriers between port and world, though such walls may become necessary. Of course, some ports with strong barriers on the XT line are no longer hardlined, due to a normalization of relations with the locals.

A Marine garrison or economic sanctions do not necessarily imply a hardlined state, as less-than-total opposition may call for either measure. Again, genuinely hardlined Starports are a rarity within the borders of the Imperium itself.

POPULAR CONCERNS

While most people think of "planetary relations" as covering only the relationship between a starport and the local *government*, this is not the case. A port director must also contend with the concerns of the local *population*. In most cases, this means listening to complaints about noise and other forms of pollution, as well as meetings with local business and union leaders. Although the presence of a starport on a world is good for the Imperium and for the planetary economy, there are always those who have reason (real or imagined) to be dissatisfied.

Naturally, the line office handles many of these concerns, in conjunction with the port director, the public relations office, and any other SPA division deemed appropriate. These concerns often create headaches and much paperwork, but they do not generally threaten the operation of the starport. Nevertheless, there *are* plenty of individuals and groups who can make the life of a port director a living hell. A good portion of these people are not supported by the majority of the local populace. Yet a director cannot always afford to simply dismiss them and their concerns.



ENVIRONMENTALISTS

No one can deny that downports are large and noisy things. Sprawling over vast tracts, they see a great deal of traffic and house a wide variety of substances, some of which can prove hazardous if accidentally introduced into the ecosystem.

For that reason, many Starports find themselves besieged by groups concerned about the potential damage wrought by the starport's operations. Some of these groups, like the Pan-Galactic Friends of Life, have legitimate worries and possess a fair amount of influence in the Imperium. Others are truly fringe groups with unworkable agendas. Distinguishing between the two is one of many tightropes a director must walk.

Crossing the Line: The Promise

When seeking XT protection, it is not enough merely to grasp the XT fence and cry "sanctuary" - one must actually be across the line. The port's Security personnel will not interfere with local authorities pursuing the refugee unless the locals attempt to cross the line, or fire across it...

Even after crossing the line, a fugitive from the local authorities may still face extradition by the Imperium. As useful as players may find starport extrality, the Imperium intends it for its own purposes. Extrality allows each starport to be an outpost of Imperial civilization and culture. These values do *not* include harboring criminals.

Embassies and Trade Stations

The extraterritoriality status enjoyed by Starports is identical to that possessed by embassies and other diplomatic structures. For that reason, it is quite common for Imperial embassies to be physically located behind a starport's XT line. This is especially true on worlds whose local situation is especially dangerous to Imperial personnel. Of course, this arrangement can occur for other reasons as well, as on worlds where land is a significant resource.

Similarly, many non-Imperial governments request that their own embassies be placed behind the line. The Zhodani commonly do this in the Spinward Marches. Their reason for doing so is obvious: security. With the Fifth Frontier War still fresh in people's minds, as well as the Imperial prejudice against psionics, the Consulate is concerned with the safety of its diplomatic personnel. Knowing that the extrality of Starports is considered inviolate by most Imperials, the Zhodani prefer to make use of it for their own purposes. The same situation holds true among other governments where security is an issue.

Some Starports are also home to trade stations. These establishments exist to promote interstellar commerce. No central authority within the Imperium maintains these stations. Some are run by private companies (on their own or under contract from the Imperium), some by the Imperial Scout Service, and some by branches of the Imperial government (such as the Ministry of Commerce).

All trade stations provide several important services in the course of their mission, including language translation, temporary warehousing, brokerage services, commodities exchange, and many others. All services are provided free of charge. Other related services are also available, for a fee.

Floaters: The Shadow Shift

All major ports have a floating population that lives, but does not work, on the property. As a group they will largely be local citizens with a sprinkling of starfaring refugees, and for that reason they're considered a local-relations concern.

These people live by handouts, eating leftovers from the restaurants (or scavenging the garbage), and sometimes petty theft. SPA does not mention these people publicly, unless an incident forces the PR office to make some kind of statement. In internal documents, they are referred to as Unattached Transients. The common term is "floaters."

Periodically a director (usually a new one) will order a "floater sweep." Security is mobilized to hunt through the port, rounding up all the floaters they can find. Sweeps are disruptive, but rarely violent - most floaters hide if possible but give up quietly if caught. Those picked up are ID'd - planetary residents are passed over the XT line, to the local authority if any; Imperial citizens from other worlds are handed to a social-service agency, though this may involve several weeks of detention until a transfer vessel arrives.

A sweep will catch from one-third to two-thirds of the total population before the disruption is no longer worth the return. The remainder lie low for a while, but they will soon return to their routine (the reduced competition for resources making life a little easier). Within two to three years, the numbers will be back to their pre-sweep levels.

Many floaters of local origin slipped into the port to escape their society, because of repression, intolerance, or just failure to "fit in." Some are refugees from war, disaster, or authoritarian governments. Others are ship's crew, unable to find work or no longer fit for it. Between 5% and 10% are combat veterans - more in the immediate wake of a war. Unreliable estimates (the only sort available) suggest that about half have some kind of mental instability.

From time to time someone finds a floater dead, from starvation, disease, or accident. Usually the body is discovered by Security or engineering; sometimes a passenger finds it, and the PR officer gets to make a statement.

Though all ports have rules against assisting floaters, they are sometimes fed by commissary or other employees, and many Medical personnel consider off-the-books treatment to be much less costly than having roving sources of infectious disease (leaving any moral issues aside).

Continued on next page...

Port directors find it in their best interests to treat environmentalists with care. While every effort is made to make the starport as safe and hazard-free as possible, there is always the potential for mistakes. Wildlife habitats can be disrupted, especially in the case of flying animals that might be adversely affected by landing starships. Similarly, fuel and other substances can be spilled, producing a hazard for everyone living near the port. In the interests of public relations, most port directors put on at least the appearance of concern about the issues raised by environmental groups.

BUSINESS AND UNION LEADERS

Another common source of concern is planetary business and union leaders, worried about the impact the starport will have on the local economy. Though most port directors seek to maximize local employment, on some worlds the nature of the local economy might be precarious enough that the Imperial starport still could be viewed as "stealing jobs" away from the locals.

Nothing could be further from the truth in most cases. Even so, port directors and the public relations office commonly deal with perceived rather than actual concerns from locals. Unless a director is willing to generate bad public relations, he will do what he can to alleviate these concerns regardless of their merits.

This is a primary reason that the line and public relations offices hold public lectures and educational series. The more the locals know about how a starport integrates their world into the Imperial economy, the less likely they are to perceive it as something "alien" and harmful to the local economy. SPA encourages locals to view the local starport as "theirs," although it is legally an Imperial possession. Starports are a typical site of elementary-school trips. Indeed, childhood experiences on a trip like this are the origin of many careers in the SPA.

These endeavors on the part of the line and public relations offices do not always work, but they go a long way toward making a port director's life easier.

ANNOYANCES AND TROUBLE-MAKERS

In some cases, there is nothing the SPA administration can do to satisfy an intransigent local. There will always be individuals (or groups) that feel somehow aggrieved or otherwise put upon. A common example is people who live close to a starport and are therefore bothered by the noise level. Every legitimate effort is made to accommodate these grievances. However, a certain amount of noise cannot be abated. Consequently, the port director and the line office must be prepared to deal with the results of their own limitations.

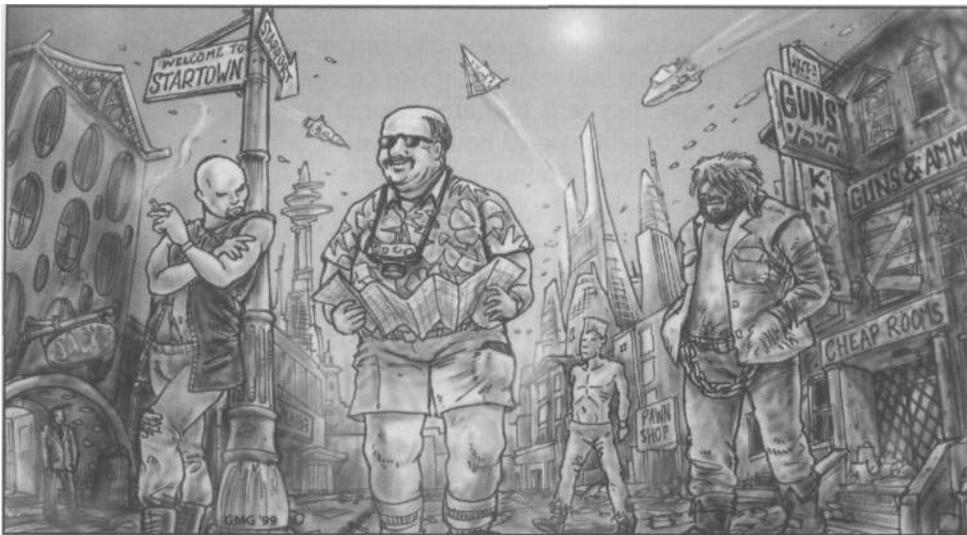
Concerns about noise are actually legitimate, if unavoidable, problems. Most public relations offices would be happy to deal with such problems, when compared to the true fringe of people with unusual problems. One need only recall the tale of a farmer on Emerald (Jewell/Spinward Marches) who believed that even the limited traffic to that world's Class IV starport upset his groats to such an extent that they would not mate, thereby endangering the future of his whole herd. There is also the story of the war veteran on Sarar (Sarar/Antares) who claimed that he could pick up control tower transmissions through his prosthetic limbs.

If asked, most port directors could regale you with dozens of stories like these. In almost every case, nothing could be done to deal with the problem, if indeed it was a genuine problem at all. Starports will, inevitably, inconvenience someone. It is the duty of the director and the line office to make certain that these people do not, in turn, inconvenience the port itself.

STARTOWN

This is the generic name for an area - usually just outside the XT line - occupied by cheap hotels, grimy taverns, and even less savory places, serving the people who are not quite part of either the local community or the port, but associate with both: unemployed star crew and their employed brethren on leave, port laborers hoping for work, petty thieves and con men who work the port when they can get away with it, businesses that can't operate openly, etc.

Most planetary governments would rather just host an Imperial starport, without the Startown to go with it, but only the most draconian, high-CR measures will keep Startown from naturally evolving. The wiser planetary leaders - and SPA port directors - accept that startowns fulfill a necessary "outlet" function for an environment with a large transient population in which people are moving across cultures (i.e., from Imperial to local values, or vice versa).



Floater: The Shadow Shift

[Continued]

There is no consensus on the precise "nature of the floater problem." They rarely cause violence (those who do are easily spotted and removed), though some people see nothing wrong with attacking *them*. Many passengers find them annoying, repellent, or frightening. They cause a certain amount of mechanical damage, by breaking into containers for food, tapping water from pipes, or building small fires for heat or cooking. While these are definitely problems for the port, many directors consider them manageable, and less costly than the largely ineffective sweeps. No one has a solution to their existence, though solutions from every part of the political spectrum (from "build places for these people to live" to "kick them out the nearest lock") have been tried to some degree.

A Class V downport will have from 50 to 100 floaters, and can support up to 400 on Earthlike worlds. A P/IV would have half to two-thirds as many. Highports, or ports on hostile worlds, can support about half as many as on the equivalent downport with breathable air.

From an adventure standpoint, floaters can be sources of information, especially on illicit activities going on literally behind the scenes. They may or may not risk themselves to help someone in trouble, but they know better than anyone where the escape routes and hiding places are. Down-and-out travelers may find themselves living as floaters for a while. Agents or spies may prefer to be picked up in a sweep and hide out in the relative safety of detention rather than risk having their fake ID exposed. During a sweep, some of the port's non-floater criminal element will lie low to avoid being picked up, while others use Security's preoccupation to attempt more elaborate than usual thefts or swindles, which a group of transient adventurers may find themselves the only people in a position to stop.

Having been a floater is a 5-point Unusual Background that gives a +1 to reaction rolls from other floaters and allows knowledge of secret places. Survival (Urban) is a common skill among floaters, as is Area Knowledge (Starports) and Hidden Lore (Starports).

ALTERNATIVE LOCALES

Startowns are not always located just across the XT line. Many planetary governments purposefully keep this zone clear of "disreputable" establishments to form a "safe buffer" for middle- and upper-class visitors. On such worlds, Startown will arise a few miles down the road.

Conversely, though the Imperial Starport Authority frowns on this, a few startowns evolve on the port property itself, wholly within the XT line or straddling it. Most often, these towns already existed when the SPA took over management of an existing port site, or the local government insisted on provisions that ensured the local Startown would be mostly an Imperial problem.

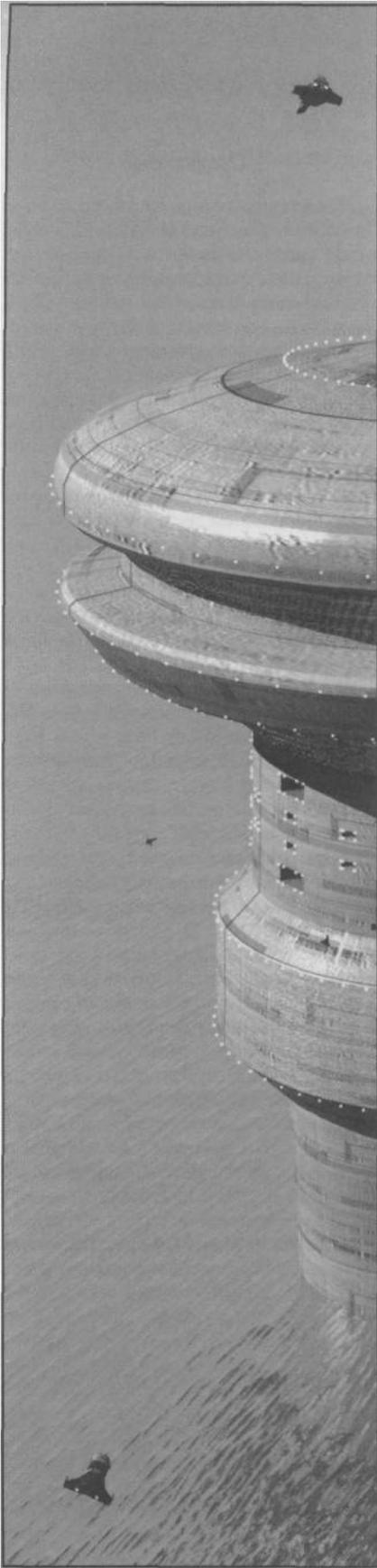
Since all startowns tend to push past the limits of local laws, and Imperial law already is minimal, these can be some of the most exciting ports and startowns to visit. They tend to be low-rent commercial districts peppered with the SPA's freestanding starship berths (see Chapter 5, *Starport Design*). An SPA downport *can* operate with crowded streets between its berths; it is simply less efficient than clear fields and taxiways.

On worlds where Startown straddles the XT line, local Customs officials and starport Security will face a huge challenge in regulating cross-line traffic, unless the host planet has a very low Control Rating and minimal tariffs to enforce, in which case they simply ignore the issue.

LAW ENFORCEMENT

Most local governments tend to "look the other way" when it comes to startowns, comfortable that those doing business there should know what they're getting into, and hoping that whatever vice takes place in Startown will stay put, and not spread to locales they actually care about. The effective Control Rating in a given startown averages half (round down) that of its host government.

The actual amount of violent crime in most startowns is exaggerated. Many of the people there are just waiting for a chance to gun down an "assailant," and even more are too poor to be worth robbing in the first place. Also, too much violence will eventually bring a show of force from the local law, or at least the local vigilantes. Despite this, odds of becoming a victim of violent crime are usually much larger in Startown than anywhere else on the host world.



On some worlds, local law enforcement maintains a large station in Startown. This doesn't keep them from lowering their normal standards, should they be so inclined, but places them in good position to rescue a foolish tourist or respond to a particularly outrageous breach of local decorum. Many of these officers are overworked and underpaid; these factors - combined with the "double standard" that even honest Startown officers must respect - makes some of them quite susceptible to bribery. Consequently, the large volume of illegal activity seen in most startowns may take place in sight of a large police presence. Most of it already is the non-violent, voluntary sort - fencing stolen goods, vice, black markets - and in these circumstances almost all of it will be.

The local law enforcement will avoid Startown on other worlds, unless on a specific mission. They know they will be outnumbered and outgunned. Extracting wanted individuals is left to professional bounty hunters, who can demand payment appropriate to the risk involved. Bounty hunters are not likely to be welcome in Startown unless they can convince the locals they are "off duty," or unless the target has caused so much trouble that the residents are willing to look the other way.

Military police patrols are also a common sight in many startowns. The MPs are rarely present to arrest criminals or investigate wrongdoing. Rather, the MPs will be on the lookout for military personnel who have broken their curfew or have gone AWOL. On worlds with a nearby military base, Startown will attract many off-duty military personnel looking for "excitement."

There are a few "clean" startowns, on worlds with such high law levels that massive police efforts are used to prevent the conventional "wrong side of the pads" from springing into being. Such worlds tend to be intolerant of many sorts of people and behavior, and starport hangers-on usually fit the category. Startown, therefore, becomes a kind of quarantine area for those who work on port property, don't live there, yet are not wanted in the local community. The residents are mostly working class rather than down-and-outers, and keep their town as tidy as possible under the circumstances. There is inevitably an underworld, but the fact that they have literally nowhere else to go - along with a peculiar sort of "civic pride" - keeps the shady types' profile low. These places usually have names like "Starview" or "Waseca Down Village" to distinguish them from the more usual startowns (see also *Jesedipere Downport*, p. 47).

DOING BUSINESS

On most worlds, the planetary civic promoters would hate to admit the out-of-proportion amount of commerce that takes place in the world's startown. (Provided, that is, that they have some means of measuring the underground economic activity.) Most Imperial worlds tend to specialize in some economic activity, such as agriculture, mineral commodities, manufacturing, etc. This often creates surpluses of many goods and a scarcity of many others. Also, the Imperial markets cater to hundreds of local cultures, meaning that they include just about any product that can be imagined, despite the fact that in any given one of these cultures a large percentage of those products will not be welcome.

In short, this means that on most worlds many products are in short supply and/or restricted. This is exactly the sort of merchandise that the average startown exists to peddle. Hundreds of items that officially don't exist on a given world will be found in its Startown - for the right price.

Negotiating a startown purchase is substantially trickier than an entirely aboveboard transaction. Goods unique to Startown tend to be offered at 300% of their normal price. The purchase of these goods requires a buyer to make Merchant and Streetwise rolls. Use defaults if need be. An Area Knowledge (the particular startown) roll can be substituted for *one* of these rolls, if the Area Knowledge skill is higher.

Failure on the Merchant roll increases the price 10% per point of failure, or 150% on a critical failure. The buyer is being taken for a tourist. Failure on the Streetwise roll means the buyer can't find a seller (but can try again tomorrow). Failure by 5 or more brings police attention, with an arrest on a critical failure.

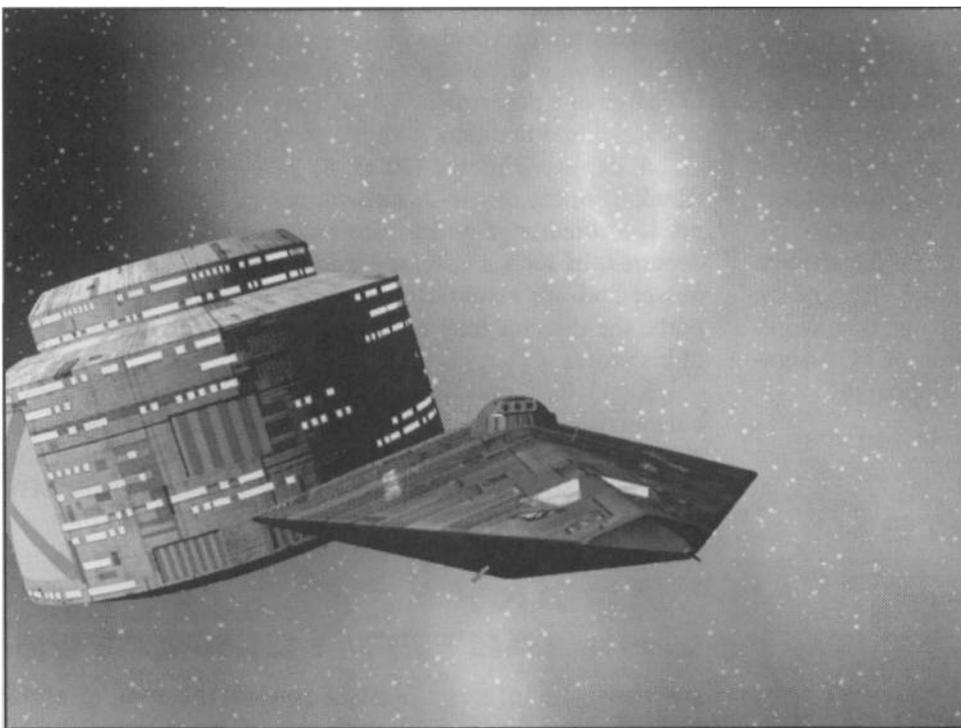
Success on either roll lowers the asking price by 10% per point by which the roll was made, down to -100% on a critical success. These modifiers are cumulative.

GETTING INTO TROUBLE

Startowns offer a lot of opportunities, many of them involving getting into trouble. A bungled Streetwise roll on an illegal transaction is a popular method for drawing the attention of the local police.

So is the good old-fashioned bar brawl. Many on-leave merchant crews and military personnel like to let off a little steam in this time-honored fashion, so PCs looking for a scrape should be able to find one. As long as the donnybrook limits itself to fists and the occasional improvised weapon, most local law will take their time in appearing. They then apprehend everybody they can, turn over appropriate personnel to the MPs, and often allow the intelligent participant to compensate the bar owner for damages in exchange for getting out of custody immediately. If only a single PC is trying to buy his way out of trouble created by a 30-person free-for-all, this can become very expensive . . .

As soon as they receive a report that someone has produced a purpose-built weapon, the police attitude changes. They arrive quickly, with civil liberties not at the forefront of their decision tree. Everyone involved - weapon-wielding or not - will be arrested and have their appointment calendars ruined.



GETTING OUT OF TROUBLE

A PC who gets into trouble short of arrest (a bungled but not critically failed Streetwise roll, a tardy exit from a good-natured brawl) can usually end the matter with a good reaction or successful Fast-Talk roll and any appropriate cash payment.

An arrest changes things. The PC will be detained for planetary Control Rating+1 days for a minor crime (soliciting a victimless crime in a startown where the crime is openly transacted, using fists in a brawl where somebody *else* pulled a gun). This will triple for average crimes (soliciting an illegal and incapacitating drug, doing serious harm with one's fists). It will increase by a factor of 10 or more for serious crimes (selling the illegal drug, pulling the gun oneself).

This is simply pre-trial detention. Posting bail and hiring an attorney (GM sets his fees . . .) usually can lower detention time by one day for each point by which a Law roll is made. Minor and average criminal charges usually can be settled with a plea, fine, and/or promise never to return to the planet. Serious crimes require a trial, and the PC's local criminal record will be reported to Imperial authorities - even if he avoids a prison sentence or flees while on bail.

Startown Is Where?

Everyone associated with space travel and trade - including those whose association is watching cheap adventure vids - knows what "Startown" means, but these districts frequently have local names as well. Often the name predates the growth of Startown, and sometimes even the port. Many ironically reflect a long-gone (or only hoped-for) splendor: Castle Hill, Parkside, Silver Grove.

Residents of the world - even residents of Startown - may insist on calling the place by its "real name," either as a way of denying the ugly suburb, or one more superfluous excuse for a Startown bar brawl. But those who hop into a taxi, flash some money, and say, "Take me to Startown, and step on it" - will get there. And stepped on, too, most likely.

Jesedipere Downport

A good example of the "rough around the edges" communities that can grow up around a starport is "Downport," located a few miles south of the true downport on the world of Jesedipere (Spinward Marches 1401). Downport is popularly considered a stereotypical Startown. Outsiders believe the place to be nothing but bars, gambling houses, and other unsavory establishments.

Yet, this is something of a misconception. While Joy Street does contain many such places, Downport also is home to many businesses of rather better reputation. Warehouses, small trading stations, and shops selling Vargr souvenirs can be found throughout the area.

In truth, Joy Street and its environs represent a very small segment of Downport. Admittedly, this segment is perhaps the most well known, being the source of great interest throughout the worlds of the Aramis subsector. Downport is the nexus for smuggling, fencing, and other illegal activities on the planet. Downport has not yet been posted as an Amber Zone, but visitors should be prepared for anything.

Like Jesedipere Downport, other Startowns may have only a small portion of their total area taken over by crime and vice. Yet, it is these small portions that are often the most interesting to interstellar travelers and adventurers. While the local Chamber of Commerce may not like to advertise these areas, they nevertheless are a draw for many outsiders.

Starport Characters

A starport will have its own unique cast of characters. This chapter introduces some of those personalities.

CHARACTER BASICS

One of the first questions the players and the GM should ask themselves is whether the characters will work for the Starport Authority. Working for the SPA brings a variety of opportunities and privileges.

It also brings with it a number of substantial responsibilities and drawbacks. SPA personnel do not have quite the freedom to act as do truly independent characters. They have a Duty on 9 or less, but one that isn't life-threatening for most employees. Thus, it usually merits no points as a disadvantage but does interfere with adventuring, freelance work, etc.

If the characters are SPA employees, their department and rank should be determined. Working for the office of the port director will create a very different campaign than working for janitorial services, so some integration of PC assignments may be required to create a workable campaign.

RANK, POSITION, PAY, AND BENEFITS

All characters employed by the SPA need to consider the following.

SPA RANK

The Imperial Starport Authority uses a system of Administrative Ranks (p. CI19) that correspond to pay grades, just like every other agency in the Imperial bureaucracy. These ranks are typical of the Imperial civil service. The title associated with each rank gives some indication of the level of authority that goes with it; titles will vary considerably depending on exact job duties.

Rank	Title	Salary
0	Clerk	800
1	Team Leader	1,000
2	Manager	1,200
3	Superintendent	1,400
4	Deputy Director	1,800
5	Port Director	2,200
6	Subsector Director	2,800
7	Sector Director	3,400
8	SPA Board Member	5,000

Clerks (Rank 0) usually are new employees with less than two years' experience. They perform the most basic functions, such as filing and sweeping. A team leader (Rank 1) oversees the work of several clerks for the purposes of a given project. Doing well in this role is crucial to being assigned higher Rank that implies permanent supervisory duties.

A manager (Rank 2) oversees the work of several teams. Managers tend to deal with projects that require significant coordination and consultation. A superintendent (Rank 3) is in charge of a department within a given port. Superintendent is a very important rank within a starport.

A deputy director (Rank 4) assists the port director (Rank 5) in the day-to-day operations of a starport. At some ports, a director may delegate much of his authority to his deputies. In such a case, the deputies wield a great deal of power and are essential to its smooth operation. At other ports, the director may use his deputies simply as executors of his orders.

Ranks 6, 7, and 8 represent the highest levels of SPA's bureaucracy. At these levels, there is only one position available for each subsector of a sector and each sector of the Imperium. Similarly, there are only 12 members of the SPA board of directors.

VARIANT

These templates modify some of the templates in *GURPS Traveller* to represent some of the character types encountered at Starports. Some of them, of course, will be encountered beyond the XT line of a port and so may be used in other contexts. Even if not suitable as PCs, these characters will appear at every starport as NPCs, making them likely to show up in just about any campaign.

Unlike the templates in *GURPS Traveller*, these are *active-duty* templates, meant to represent characters still employed in the indicated profession.

Those wishing to design former employees from the templates should be able to figure out which advantages and disadvantages may disappear entirely. These include Administrative Rank, Legal Enforcement Powers, Security Clearance, etc. Some may be retained at a reduced level, such as Status. Attributes and skills generally do not change to reflect leaving a particular job.

The GM should be consulted when modifying the character template to reflect an ex-employee.

ATTORNEY SEE P. GT87

The presence of a starport on a world can lead to all manner of legal wrangling. Consequently, Starports usually have a staff of lawyers who are ready to deal with these and other concerns. These attorneys may work within the line office, as a legal attache, or in the legal department, supporting the line office's efforts.

Legal Attache 60 points

Legal attaches frequently smooth over differences between the SPA and local legal or governmental authorities. For this reason, they differ somewhat from corporate and other lawyers both in their skills and in their reputations.

Attributes: ST 10 [0], DX 10 [0], IQ 13 [30], HT 10 [0].

Advantages: A total of 20 points in Administrative Rank 1-3 [5/level], Charisma [5/level], Security Clearance (SPA) 1-2 [5/level], Status 1 [5], and Versatile [5].

Disadvantages: A total of -20 points in Code of Honor (Professional ethics) [-5], Honesty [-10], Overweight or Skinny [-5], Secret (Dishonest) [-10], Sense of Duty (Starport Authority) [-5], Truthfulness [-5], and Workaholic [-5].

Primary Skills: Diplomacy (M/H) IQ+1 [6]-14, Law (M/H) iQ+3 [10]-16, Research (M/A) IQ+1 [4]-14, and *either* Bard (M/A) IQ+1 [4]-14 *or* Fast-Talk (M/A) IQ+1 [4]-14.

Secondary Skills: Administration (M/A) IQ-1 [1]-12, Area Knowledge (M/E) IQ+1 [2]-14, and Writing (M/A) IQ-1 [1]-12.

Background Skills: A total of 2 points in Criminology, Interrogation, Intimidation, or Politics, all (M/A); Accounting, Detect Lies, or Psychology, all (M/H), and improved levels with any other skills on this template.

Customization Notes

Most legal attaches possess excellent diplomatic skills, as well as decent Area Knowledge of the world on which their port is based. Some legal attaches specialize in areas such as extradition or other kinds of law dealing with the relationship between worlds and the Imperium. Whatever his specialty, a legal attache should possess skills that enable him to carry out his duties in the line office or legal department of the starport.

BUREAUCRAT SEE P.

Starports generate a massive amount of data and need for decision-making. For that reason, bureaucrats abound in their corridors. Indeed, most SPA administrators will qualify as bureaucrats, up to and including the port director himself, who may well be the single most powerful bureaucrat on many worlds.

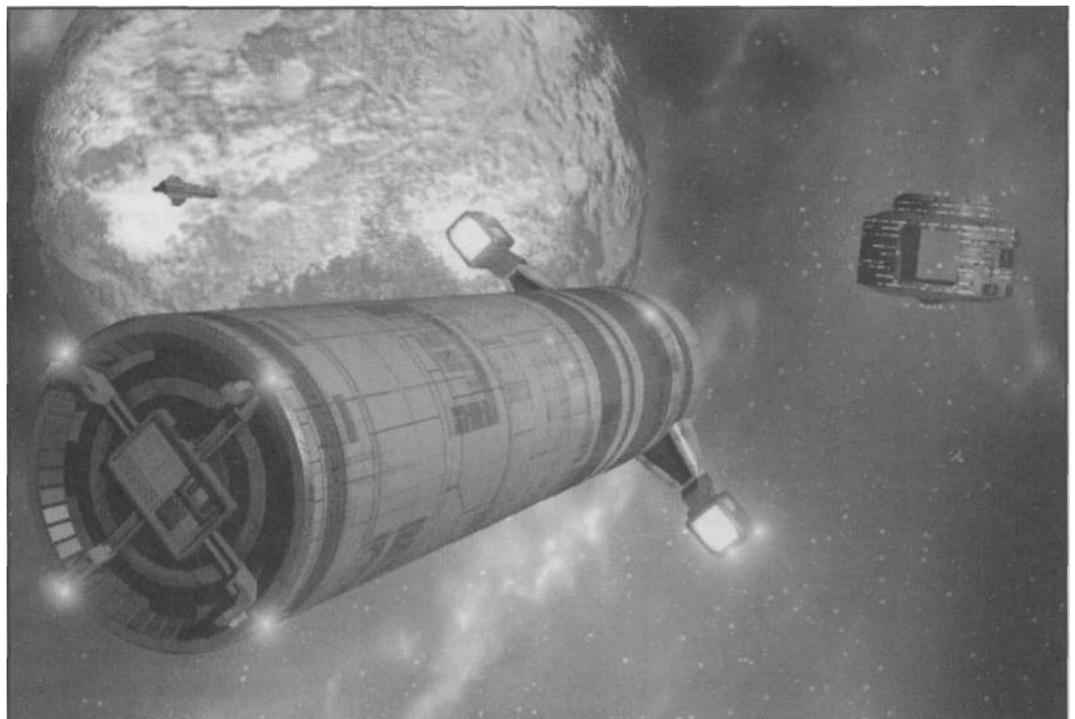
Port Director 95 points

Port directors stand in the middle of the tensions between Imperium and host planet, and in many ways lead more exciting lives than naval starship captains! They aren't directly entrusted with shaping Imperial policy, but greatly influence it by how they choose to apply it. They must take the steps necessary to keep their port open and thriving, without stepping on too many local toes. And they must be prepared to deal with the 100 unexpected problems that will inevitably arise at such a nexus of peoples and purposes.

Attributes: ST 10 [0], DX 10 [0], IQ 14 [45], HT 10 [0].

Advantages: Administrative Rank 5 [25], Legal Enforcement Powers (Director's Discretion) [5], and Status 1 [5], *plus* a total of 15 points in Charisma [5/level], Common Sense [10], Imperturbable or Unfazeable [10 or 15], Security Clearance (SPA) 1-3 [5/level], additional Status [5/level], Single-Minded [5], and Wealth [10].

Disadvantages: Duty (12 or less but rarely life-threatening) [-5], plus a total of -20 points chosen from Hidebound [-5], Honesty [-10], Incurious or Obdurate [-5 or -10], No Sense of Humor [-10], Odious Personal Habits ("Imperious," "Meddling," etc.) [-5 to -15], Overweight or Skinny [-5], Sense of Duty [varies], Stubbornness [-5], Unfit [-5], and Workaholic [-5].



Primary Skills: Administration (M/A) IQ+1 [4]-15, Law (M/H) IQ [4]-14, and Politics (M/A) IQ+1 [4]-15.

Secondary Skills: Computer Operation (M/E) IQ [1]-14, Diplomacy (M/H) IQ [4]-14, Leadership (M/A) IQ [2]-14, Research (M/A) IQ [2]-14, and Writing (M/A) IQ-1 [1]-13.

Background Skills: A total of 3 points in Area Knowledge (Host world) or Savoir-Faire (both M/E); Speed Reading (M/A); or Accounting (M/H), or improved levels with any other skill in this template.

Customization Notes

Most port directors will have some level of Security Clearance, often very high, reflecting the wealth of data that passes through their computer terminal and that must be at their disposal to do their job. Successful directors often receive Imperial titles, resulting in higher Status and Wealth. Other starport-related skills - even such things as Engineering - could be taken to reflect the character's SPA experience prior to rising to port director, but most port directors spend their entire career in Administration, so additional skills aren't essential.



DIPLOMAT

SEE P.

A variety of Imperial diplomats can often be found at Starports. Many Starports house the local consulate or embassy. Even at Starports that don't, diplomats often like to conduct their business at the starport. It's seen as "neutral ground" representing both Imperial and local interests. On hostile worlds, the starport is a far more secure meeting place than the offices of the host government. . .

Imperial Consul or Legate 90 points

Imperial consuls look after the commercial interests of a star system or collection of star systems within the Imperium. Imperial legates combine these functions with those of an ambassador. Both are "blue collar" jobs in comparison to the usual diplomatic functions, dealing more often in tractors than border incidents. This makes them less likely to be under suspicion as spies (therefore more effective if they *are* spies). Both consuls and legates set up office at the SPA starport even more often than other diplomats, since most of their duties revolve around trade.

Attributes: ST 10 [0], DX 10 [0], IQ 13 [30], HT 10 [0].

Advantages: Administrative Rank 2 [10] and Legal Immunity [20], plus a total of 25 points in additional Administrative Rank [5/level], Cultural Adaptability [25], Security Clearance (Imperial) [5/level], Status 1-4 [5/level], and Wealth [10 or 20].

Disadvantages: A total of -20 points chosen from Duties [-2 to -15], Enemy (Rivals, Corporate interests, etc.; 6 or less) [-10], Secret (Spy) [-5 to -20], Sense of Duty (Imperium *or* Host world) [-10], Unfit [-5], and Workaholic [-5].

Primary Skills: Administration (M/A) IQ [2]-13, Diplomacy (M/H) IQ [4]-13, Economics (M/H) IQ+1 [6]-14, Savoir-Faire (M/E) IQ [1]-13, and Law (M/H) at IQ [4]-13.

Secondary Skills: Merchant (M/A) IQ [2]-13, Politics (M/A) IQ-1 [1]-12, Research (M/A) IQ-1 [1]-12, and Writing (M/A) IQ-1 [1]-12.

Background Skills: A total of 3 points in Games or Area Knowledge (world) (both M/E); Bard, Intimidation, or Language (all M/A); Cryptography (M/H); or Carousing (P/A - HT).

Customization Notes

These characters may invest in the espionage skills in the Diplomat template from *GURPS Traveller*, should they be engaged in such work. (Most won't be.) Many essentially serve as Imperial brokers - ensuring that client or member worlds can obtain the goods they need - so will have considerably more investment in trade-related skills.

A particular consul will more often run afoul of a megacorporation than a government. Since the megacorporations often try to monopolize trade on developing worlds, which rarely best meets the world's interests, consuls often find themselves in an adversarial role.

LAW ENFORCER SEE P. GT94

Starports within the Imperium are generally orderly places. This is due in part to the vigilance of several varieties of law enforcers that frequently work within their confines.

Customs Officer 85 points

While trade within the Imperium is relatively free, duties, tariffs, and inspections remain an integral part of starport life. The implementation of these duties falls to customs officers and their staffs, who work for the Imperial Revenue Department. Customs officers also work closely with SPA personnel in combating smuggling and other attempts to circumvent Imperial regulations. They sometimes resent the common misimpression that they are not members of an independent agency.

Attributes: ST 10 [0], DX 11 [10], IQ 13 [30], HT 10 [0].

Advantages: Legal Enforcement Powers [10] and a total of 25 points chosen from Acute Senses (any) [2/level], Alertness [5Aevel], Intuition [15], Sanctity, Strong Will [4/level], +1 DX [10], and +1 IQ [15].

Disadvantages: Duty [-5] and a total of -20 points chosen from Bully [-10], Curious [-5 to -15], Enemy (Smugglers or Pirates, 6 or less) [-15], Honesty [-10], Odious Personal Habit ("Officious") [-5], Overconfidence [-10], Secret (Crooked) [-20], and Workaholic [-5].

Primary Skills: Administration (M/A) IQ [2]-13, Area Knowledge (Starport) (M/E) IQ+2 [4]-15, and Law (M/H) IQ+1 [6]-14.

Secondary Skills: Computer Operation (M/E) IQ [1]-13, Criminology (M/A) IQ [2]-13, Electronics Operation (Sensors) (M/A) IQ+1 [4]-14, and Research (M/A) IQ [2]-13. Any three of: Interrogation, Intimidation, Streetwise (all (M/A) IQ [2]-13), Detect Lies, Diplomacy, and Psychology (all (M/H) IQ-1 [2]-12). One of Beam Weapons (any) or Guns (any), both (P/E) DX+2 [1]-13.

Background Skills: A total of 7 points in Electronics Operation (any) (M/A); Animal Handling or Forensics, both (M/H), or any primary or secondary skills.

Customization Notes

Imperial customs officers prefer keen observation, psychology, and investigation to physical or combat skills. Their choice of skills should reflect this fact. Local customs officers may start with the same template, but can add disadvantages such as Greed that aren't often seen in their Imperial counterparts.

Starport Security Officer 85 points

Major and many minor Starports have their own security force. Starport security officers generally deal with minor matters, from rowdy travelers to stolen luggage. From time to time, though, they may be called upon to deal with much more significant disturbances.

Attributes: ST 10 [0], DX 12 [20], IQ 12 [20], HT 10 [0].

Advantages: Administrative Rank 1 [5], Legal Enforcement Powers [5], and a total of 20 points chosen from Administrative Rank 2-3 [5/level], Alertness [5/level], Combat Reflexes [15], Contacts (Floaters or Startown regulars) [varies], Danger Sense [15], Intuition [15], Sanctity [5], Single-Minded [5], Strong Will [4/level], and Versatile [5].

Disadvantages: Duty [-5] and a total of -20 points chosen from Bully [-10], Cannot Harm Innocents [-10], Curious [-5 to -15], Enemy (Criminals, 6 or less) [-15], Honesty [-10], Intolerance (Criminals) [-5], Overconfidence [-10], Secret (Crooked) [-10], Sense of Duty [-5 to -15], Stubbornness [-5], and Workaholic [-5].

Primary Skills: Area Knowledge (Starport) (M/E) IQ+2 [4]-14 and Law Enforcement (M/A) IQ+2 [6]-14; one of Beam Weapons (any) or Guns (any), both (P/E) DX+2 [1]-14; and Judo (P/H) DX [4]-12.

Secondary Skills: Administration (M/A) IQ [2]-12, Computer Operation (M/E) IQ [1]-12, Criminology (M/A) IQ [2]-12, Research (M/A) IQ [2]-12, and Shadowing (M/A) IQ [2]-12. Any three of: Interrogation, Intimidation, Streetwise (all (M/A) IQ+1 [4]-13), Detect Lies, or Psychology (both (M/H) IQ [4]-12).

Background Skills: A total of 4 points in Armoury (any), Electronics Operation (any), or Leadership, all (M/A); Animal Handling, Explosive Ordnance Disposal, Forensics, Law, or Tactics, all (M/H).

Customization Notes

The template above represents a general officer. Naturally, officers with esoteric specialties (bomb-disposal, hostage negotiation, dealing with floaters, etc.) will emphasize skills appropriate to them.



Inspector General 100 points

Inspectors general police the Starport Authority itself, rooting about for corruption or criminal practices within the administration and workforce. The inspector general described in this template does not reflect the reality of *all* such operatives - most of them have rather unexciting data-processing jobs without much opportunity for covert investigations. Nevertheless, inspectors general entitled to conduct undercover operations and surveillance do exist, and provide an interesting character option for any starport-based campaign.

Attributes: ST 11 [10], DX 13 [30], IQ 13 [30], HT 10 [0].

Advantages: Administrative Rank 1 [5], Legal Enforcement Powers [10]* and a total of 20 points taken from Administrative Rank 2-5 [5/level], Alertness [5/level], Collected or Imperturbable [5 or 10], Danger Sense [15], Intuition [15], Jack-of-All-Trades [10/level], Language Talent [2/level], Luck [15], Security Clearance (SPA) [5/level], Single-Minded [5], Strong Will [4/level], and Versatile [5].

Disadvantages: Duty [-10] and a total of -25 points chosen from Curious [-5 to -15], Enemy (Criminals, 6 or less) [-15], Honesty [-10], Intolerance (Criminals) [-5], Odious Personal Habit ("Meddler") [-5], Overconfidence or Glory Hound [-10 or -15], Paranoia [-10], Secret (Crooked) [-10], Sense of Duty [-5 to -15], and Workaholic [-5].

Primary Skills: Administration (M/A) IQ [2]-13, Computer Operation (M/E) IQ+1 [2]-14, Criminology (M/A) IQ [2]-13, and Detect Lies (M/H) IQ+1 [6]-14.

Secondary Skills: Beam Weapons or Guns (P/E) DX [1]-13, Research (M/A) IQ [2]-13, and Shadowing (M/A) IQ-1 [1]-12. Any three of: Intimidation, Streetwise (both (M/A) IQ+1 [4]-14), Diplomacy, or Psychology (both (M/H) IQ [4]-13).

Background Skills: A total of 2 points in Savoir-Faire (M/E); Acting, Interrogation, or Language, all (M/A); Cryptanalysis or Cryptology, both (M/H).

Customization Notes

Inspectors general tend to specialize, since they normally work in teams - each inspector in the team has an area of expertise that will prove useful to most of the tasks they face. Still, the SPA is a vast agency, and many inspectors end up "one-man bands" with the well-rounded set of skills necessary for solo operations.

Like most law-enforcement groups operating within starports, inspector teams tend to emphasize social and technological skills over gunplay and brawling. Skills like Body Language, Electronics, Fast-Talk, Lip Reading, and Stealth are far more commonly used than most combat skills. Inspectors general tend to view themselves as the "thinking person's law enforcer," and a PC inspector's peers will more fully respect plans that minimize any chance of violence.

MERCHANT SEE P.

While very few SPA employees make their living selling goods, a great many of them are employed in directly servicing commercial merchant operations.

Dockworker 65 points

Also known as a stevedore or longshoreman, these are the starport personnel who get the goods from ship's hold to customer's warehouse. Even on high-tech worlds, there is still a need for individuals trained to move cargo. Though the profession has less to do with stout arms and more to do with vehicle skills as technology improves, even an SPA dockworker has to be ready to manhandle a balky freight container from time to time.

Whether private or Imperial employee, these men and women have a reputation for surliness matched only by their skills in their chosen profession. Merchants and port administrators alike know better than to treat them poorly, lest striking dockworkers cripple the starport.

Attributes: ST 12 [20], DX 10 [0], IQ 10 [0], HT 11 [10].

Advantages: A total of 30 points in Administrative Rank [5/level], Alcohol Tolerance [5], Ally Group (2-5 75-point crewmen, 9 or less) [10], Claim to Hospitality (Trade guilds, etc.) [1 to 10], Common Sense [10], Contacts (Merchant) [varies], Fit [5], Mathematical Ability [10], Strong Will [4/level], Reputation [varies], and +1 ST [10].

Disadvantages: A total of -25 points in Bad Temper [-10], Bully [-10], Chummy or Gregarious [-5 or -10], Code of Honor (Merchant's) [-5], Compulsive Carousing [-5 or -10], Greed [-15], Laziness [-10] or Workaholic [-5], Overweight or Fat [-5 to -20], Reputation [varies], and Stubbornness [-5].

Primary Skills: Freight Handling (M/A) IQ+4 [10]-14 and Merchant (M/A) IQ+2 [6]-12.

Secondary Skills: Carousing (P/A; HT) HT [2]-11.

Background Skills: A total of 12 points in Area Knowledge (Starport or world) (M/E); Hazardous Materials, NBC Warfare, or Streetwise, all (M/A); Animal Handling (M/H); Brawling (P/E); Ax/Mace, Broadsword, Driving (Construction Equipment), Exoskeleton, or Piloting (Contragravity), all (P/A); or any primary or secondary skill.

Customization Notes

Choose background skills that are appropriate to the type and tech level of work that the character does most often. SPA dockworkers generally use wheeled cargo carriers (and Driving skill), but do employ some grav vehicles requiring Piloting skill.

One advantage to this skill set is that employment can be found almost anywhere, so a dockworker may have an impressive set of Area Knowledge skills to reflect an earlier career spent wandering from job to job.



ROGUE

SEE p.

Being centers of travel, starports - and their startowns - attract all sorts of interstellar travelers, including some less than reputable types.

Crime Boss 90 points

The volume of goods that move through a port is a powerful lure for many criminal elements in the Imperium. The better-organized criminals owe their success to a crime boss behind their operations. Consequently, many startowns possess a powerful kingpin of crime, who directs the "work" of his underlings with skill and finesse.

Starport Crew

GO points

Starports have enormous manpower requirements. This template represents a wide variety of starport occupations, most of them having to do with maintenance of the starport's physical plant. Depending on the local situation, many starport crew members may be native to the world on which the starport is based.

Attributes: ST 10 [0], DX 11 [10], IQ 12 [20], HT 10 [0].

Advantages: A total of 20 points chosen from Administrative Rank [5/level], Common Sense [10], Fit [5], Jack-of-All-Trades [10/level], Mathematical Ability [10], Sanctity [5], Single-Minded [5], and Versatile [5].

Disadvantages: A total of -15 points chosen from Curious [-5 to -15], Honesty [-10], Overconfidence [-10], Primitive [-5/level], Truthfulness [-5], Uneducated [-5], and Workaholic [-5].

Primary Skills: Mechanic (any) (M/A) IQ+2 [6]-14 and one of Computer Operation (M/E) IQ+2 [4]-14, Electronics Operation (any) (M/A) IQ+1 [4]-13, Electronics (M/H) IQ [4]-12, or Engineer (any) (M/H) IQ [4]-12.

Secondary Skills: Administration (M/A) IQ+1 [4]-13 and Scrounging (M/E) IQ [1]-12

Background Skills: A total of 10 points in Electronics (any) or Engineer (any), both (M/H); Armoury (any), Electronics Operation (any), Mechanic (any), all (M/A); and Driving (any) or Piloting (any non-starship), both (P/A).

Customization Notes

Starport crew members fill a variety of niches at the starport. Thus, players should feel free to tailor their skill choices to reflect their chosen field. Since many crew members come from the local population, Area Knowledge and similar skills are also appropriate.

Attributes: ST 10 [0], DX 13 [30], IQ 13 [30], HT 10 [0].

Advantages: A total of 30 points chosen from Alertness [5/level], Ally Group [varies], Alternate Identity [15 per identity], Contacts (Street) [varies], Danger Sense [15], Luck [15], Wealth [10 to 30], and Zeroed [10].

Disadvantages: A total of -30 points chosen from Callous [-6], Code of Honor (Criminal's) [-5], Compulsive Gambling [-5 to -15], Enemy (Law Enforcement Agency, 6 or less) [-15], Extravagance [-10], Greed [-15], Loner or Reclusive [-5 or -10], Overconfidence [-10], Reputation (Criminal) [varies], Secret (Almost anything!) [-5 to -20], Selfish or Self-Centered [-5 to -10], and Social Stigma (Criminal) [-15].

Primary Skills: Administration (M/A) IQ [2]-13, Area Knowledge (any) (M/E) IQ [1]-13, Leadership (M/A) IQ+1 [4]-14, and Streetwise (M/A) IQ [2]-13.

Secondary Skills: Computer Operation (M/E) IQ [1]-13 and Diplomacy (M/H) IQ-2 [1]-11, and six of the following skills: Acting, Courtesan, Fast-Talk, Gambling, Holdout, Intimidation, Merchant, Research (all (M/A) IQ [2]-13), or Sex Appeal (M/A; HT) HT [2]-10.

Background Skills: A total of 7 points in Disguise or Survival (Urban), both (M/A); Forgery (M/H); Computer Hacking (M/VH); Carousing (P/A; HT); or any primary or secondary skills.

Customization Notes

Crime lords are criminals who made it big and now run vast illegal enterprises. They have a good mix of skills representing their former specialties as well as their current status. However, crime bosses rarely involve themselves directly in the operation of their empire, preferring to leave such matters - and the subsequent direct attention from law enforcement - to their underlings.

ADVANTAGES, DISADVANTAGES, AND SKILLS

The following special considerations apply to the standard *GURPS* rules in *Starports* campaigns.

ADVANTAGES

Administrative Rank *see p. C119*

This advantage is discussed in detail under *SPA Rank* (p. 48). SPA-employed player characters holding any authority will have to invest in the appropriate amount. Depending on the type of campaign, the Game Master may want to waive the normal restriction of Administrative Rank 3 or less for beginning player characters.

Allies *see p. B23*

Given the geographically static nature of a starport campaign - in which most of the action occurs within the same locale - advantages such as *Allies* can come into play much more often. A port director might have an "under the table" agreement with the local crime lord, in which they look out for each other's interests. An SPA stevedore might be the brother-in-law of a local political authority. Webs of relationships such as these can enhance a campaign set in a fixed locale, and the GM should consider allowing inventive relationships.

Contacts *see p. C122*

As with *Allies*, SPA and related personnel often have an extensive network of *Contacts* - in fact, *Contacts* probably will be more common than *Allies* for most characters. These also need not be obvious relationships - a janitor might spend five minutes of each evening shift chatting with the security watch commander, effectively earning a police *Contact* that, on paper, has nothing to do with his job.

Favor *see p. C125*

Another social advantage that can come into play frequently in a *Starports* campaign, *Favors* can be handed out in lieu of (or as a bonus to) experience points to reward role-playing as appropriate. Note that an NPC who routinely grants the PC favors should be purchased as an *Ally*, instead.

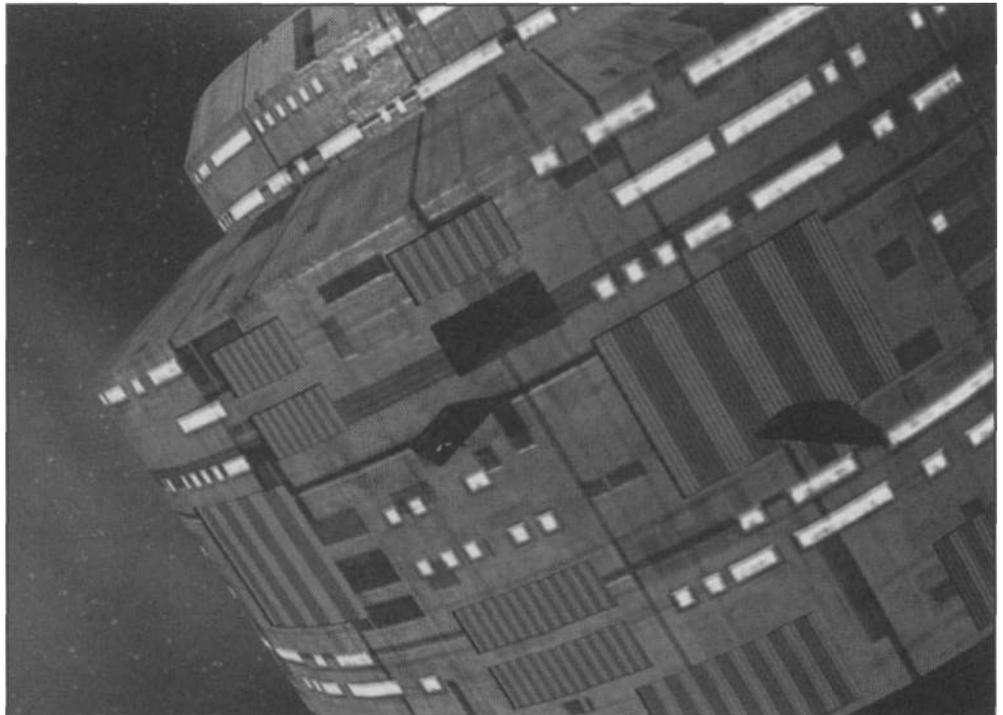
Patrons *see p. B24*

The Starport Authority is organized as a civil service. Civil services are designed to objectively promote and retain personnel, replacing the patronage system in which each boss has full fire-and-hire rights and a new boss can sweep his department clean and fill it with his favorites. This does not

mean that patronage does not endure in the Starport Authority. PCs should be allowed to take higher-level SPA authorities as *Patrons*, but the GM should keep in mind that the civil-service mechanics limit how much a *Patron* can do to aid his clients.

Reputation *see p. B17*

SPA personnel can have personal reputations - or a reputation based upon their starport's relationship with its host world. For instance, all SPA personnel in a star system with strong Imperial ties might enjoy a +1 *Reputation*. The frequency of the reputation would depend on how much of the character's time is spent among locals. A line officer might take the reputation all of the time; a mechanic who never deals with anyone but other SPA employees would not take it at all.



Claim to Hospitality *see p. C121*

Retired and off-duty SPA employees who know how to "work the system" can talk their way into lodging privileges at SPA facilities throughout the Imperium. These privileges are available only when circumstances permit. That is, a port director is under no obligation to provide lodging for a former SPA employee when there is no space available (but *some* sort of lodging will be found for certain types of characters, such as old buddies). Characters planning to use this privilege must purchase *Claim to Hospitality* to represent it; the GM may require further investment in *Fast-Talk*, *Allies*, or some other trait sufficient to explain how the character manages to obtain free room and board.

Courtesy Rank *see p. C123*

SPA employees may hold a Courtesy Rank after their retirement. Similar to Claim to Hospitality, Courtesy Rank may open a few doors with SPA and its employees, although there is no guarantee. In addition, many current SPA employees are former scouts, who may hold a Courtesy Rank from their time in that service.

Legal Enforcement Powers *see p. B21*

Active-duty members of both Starport Security and the Customs Service have this advantage because of their duties. Customs officers have full Imperial authority and can demand the cooperation of local customs officials in the pursuance of their own duties. Starport security has much more limited powers that are restricted to the grounds of the starport itself. Outside of the XT line, starport security has only whatever authority is granted them by the local government.

Status *see p. B18*

The Starport Authority is not one of the Imperial services toward which the Imperial nobility gravitates. The vast majority of SPA personnel are Status 0. The average port director at a minor port will be effectively Status 1 because of the authority he wields, though his Administrative Rank will give him much higher "effective" status with his employees. The average port director at a major port will be Status 2, or 3 on a high-population world.

DISADVANTAGES

Enemies and Reputation *see pp. B17, B39*

Everything stated under *Allies* and *Reputation* (p. 54) also holds for Enemies and bad Reputation. Bad Reputations based on host world-Imperial ties might be more common than good ones for SPA personnel.

SKILLS

Area Knowledge *see pp. B62-63, C118*

In a starport campaign, use the following area classes: Port, Port City, Planet, Subsector, and Sector. Area Knowledge of a Domain or even the Imperium as a whole is possible, but not particularly useful. Some knowledge of *all* the ports or port cities in a subsector - such as Area Knowledge (District 268 ports) - is also fairly common. Distance penalties are assessed at each level along the shortest trade route, as follows (examples refer to the map on p. GT122):

Neighboring (e.g., Hefre from Regina): -4.

One removed (e.g., Forboldn from Regina): -7.

Two removed (e.g., Knorbes from Regina): -12.

Law *see p. B58*

Starport authorities deal with many matters of law. Their "specific area" of law will be the interface between local and Imperial jurisdictions; many SPA lawyers also will specialize in their particular field, such as contract law,

tax law, astronomical regulations, etc. SPA lawyers are considered unfamiliar with their jurisdiction if they have not practiced there for a period equal to (60 months/CR). Familiarity previously held can be regained through 8 hours of studying precedent and legislation.

Imperial law takes precedence over planetary law *where it addresses an issue*. Many potential crimes - such as public nuisances - are ignored by Imperial law and can only be local infractions. Most crimes — including homicide - are considered Imperial affairs only if they take place on Imperial property. A few - such as treason against the Imperium - are Imperial crimes regardless of where they take place.

Questions of jurisdiction usually will be tried under Imperial law first, then turned over to the local authorities if unsuccessful.

NBC Warfare *see p.C1151*

This skill covers more than just the military applications of protective equipment and decontamination; it also includes using protective gear around hazardous materials (HAZMAT) and preventing the spread of HAZMAT contamination. Note that someone in a vacc suit or sealed combat armor is fully protected from the effects of (most) HAZMAT as long as he remains in his suit. If he ever wants to take it off, though, he will need this skill to decontaminate the suit exterior first, or he may suffer the ill effects.

Shipbuilding (Starship)/TL *see p. C1137*

Starship crews routinely learn this skill as part of their damage-control training. Shipbuilding is also useful for smugglers (and customs agents!), as it covers knowledge of where small items can be hidden aboard ship and how to construct secret compartments.

NEW SKILLS

ProfessionalSkill

(Hazardous Materials/TL)

[Mental/Average]

Defaults to IQ-5

The professional skill of shipping, moving, loading, and storing hazardous materials (HAZMAT). It includes preparing the forms and records that must accompany HAZMAT shipments, applying and identifying warning labels and markings, and knowledge of the countermeasures, antidotes, and decontamination and containment procedures. When dealing with HAZMAT in any capacity, roll against the *lower* of the applicable skill (Diagnosis, Freight Handling, etc.) or Professional Skill (Hazardous Materials) skill. The operation of *personal* protection gear is covered by NBC Warfare skill (see above).

The IQ default represents any layman's knowledge of hazardous household chemicals and their effects. Some aspects of this skill (most notably HAZMAT markings) are deliberately kept obscure by HAZMAT professionals to avoid alarming the general public; no default roll is permitted when dealing with such things.

Starport Design

Paradigmatic Starports

Not everyone at a port is interested in the details of its design. For many visitors, what is important is not the price of refined fuel, but the *feel* of the place. Is it ornate or brutally functional? Placid or tense? Clean or grimy? A convenient way to get the ambience across to the players is to use a paradigm - an image already familiar to the players. (This is not necessarily the "best" method of presentation, if there even is such a thing. It's just one that works.)

The Thin Edge Ports

The great image here is the movie *Casablanca*. There's a constant tension, a real sense of danger - possibly a war not very far away. Everyone who was able - some would say, everyone with any sense - has packed up and gone. What's left are those who can't go, due to lack of money, possessing the wrong citizenship, the prospect of making a big semi-honest profit before the end comes, or worse prospects everywhere else. A few might even be trying to do some good.

The Thin Edge port will probably look shabby, though it may once have been elegant. Times being what they are, nobody sees much point in sweeping away the cobwebs or mending the cracked windows. This may even extend to traffic control: "Oh, we've got plenty of empty pads, Kilo Fox Niner. Take your pick. Don't hit anything on your way down, OK?" Conversely, the port personnel may desperately hold on to the highest standards in maintenance and protocol, in order to prop up their fading morale ...

Good food and drink will be expensive, but "eat, drink, and be merry, for tomorrow we may die" is the philosophy of the day. If gambling is allowed - or even if it isn't - many people will play fast and loose with money they believe will shortly be worthless, as it always is when one is no longer alive to spend it.

Continued on next page...

Previous chapters have detailed the many departments of a starport's organization and the many tasks its personnel are required to face. The *economic* and *physical* structure of a starport, from the design stage through construction and subsequent traffic patterns, are equally complex considerations.

GENERAL GUIDELINES

The components of Imperial Starports usually are based on standard designs (see below), but a number of factors resist any effort to make the Starports themselves truly "uniform." Planetary ecology and politics, the precise service needs of the star system, and available construction resources all conspire to make each port be a unique entity. Most important, an Imperial starport is a point of particular pride for most star systems - its overall design should reflect local aesthetics and will often be a grand synthesis of the best local architecture and Imperial prudence.

Despite the overwhelming logistics of starport construction, the Imperial Starport Authority has become adept at tailoring each starport to the system it serves.

IMPERIAL STANDARDS

The Starport Authority was in the forefront when the Imperium discovered one of the primary difficulties of maintaining an empire spanning thousands of worlds of varying tech levels: compatibility of parts. Market forces can informally standardize high-profile, big-ticket equipment such as military hardware (p. GT109), but the million-and-one inventory items of a starport demand more central planning. Otherwise, air filters made on a TL8 border world bear no resemblance to the air filters made on a TL11 core world.

In response to the need for uniform parts and equipment, "Imperial standards" were created for literally millions of items used by the SPA and other Imperial agencies. These standards define the physical properties of a piece of equipment, sometimes very rigidly (the familiar triangular hull of an Imperial Scout Service *Sulie*man-class scout/courier) and sometimes liberally (the Imperial standard bulldozer may have any weight within a range of several tons). They also define minimal acceptable performance; in some cases (particularly fare such as demolition charges) they will define *maximum* acceptable performance.

The Imperium bundles its standards for thousands of very common items into a data program called the Imperial Data Package. This Complexity 1 program takes up 10 gigs and costs a government-subsidized \$3,000 to those who desire a copy. Most commonly encountered *civilian* Imperial vehicles and heavy equipment can be found there - as well as the literal nuts and bolts of Imperial infrastructure, the aforementioned air filters, standard civilian starship components, and more. Military designs are not included.

While the Imperium never requires use of its standards, most member worlds design their infrastructure to meet them. This improves their ability to sell services to offworld interests, including the Imperium itself, and to receive Imperial aid.

Imperial standards are maintained throughout an SPA starport's construction. Not only does this allow SPA construction personnel from any part of the Imperium to assume instant familiarity with a project, it allows outside contractors and vendors the same advantage from one end of the Imperium to the other. To reflect this in his campaign, a GM might allow player characters with a background related to Imperial

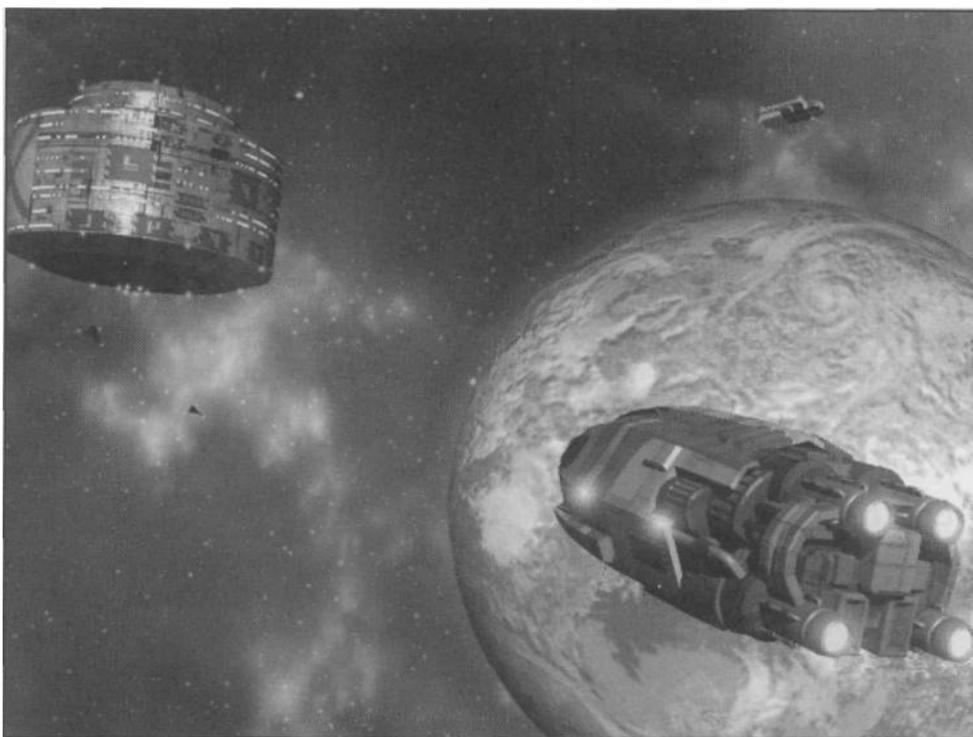
service to make Architecture, Engineer, or Mechanic rolls for "familiarity" with parts of a starport (or other Imperial facility), even if the PC has not previously visited the particular port. While each starport has many unique elements, Imperial standard components will be instantly recognizable to the experienced onlooker.

COST

While a Class I port may be emplaced for as little as 5 to 10 Imperial megacredits, the price goes up steeply from there. Creating a Class II port usually costs GCr0.5 to GCr1, a Class III GCr1 to GCr2, a Class IV GCr2 to GCr6, and a Class V GCr6 and up. More detailed financial information can be found in the following design process.

STARPORT DESIGN

A *GURPS Traveller* campaign may call for a custom, detailed starport design. Perhaps the building of the port is the focus of the campaign, or the campaign is based at the starport. The following design sequence allows for creating a custom port, and it also expands upon the information presented in Chapter 2.



DESIGN SEQUENCE

Starport design follows a step-by-step process, beginning with the characteristics of the planet it serves:

1. Gather planetary data (p. 58).
2. Determine World Trade Number (p. 58).
3. Calculate port size and estimated trade volume (p. 58).
4. Decide number and type of subports (p. 60).
5. Determine subport capacities (p. 61).
6. Determine starport population and income (p. 65).
7. Determine construction basics (p. 66).
8. Add starport components (p. 70).
9. Proof design vs. budget (p. 86).
10. Allocate personnel (p. 87).

The Thin Edge Ports

[Continued]

Security may be a joke, or the officers may feel a strong sense of duty to hold back the chaos. Even if *they* are not corrupt, there is certainly more corruption than they can control. Anything that can bring a price - valuables, secrets, people - will be for sale.

In the movie of the same name, Casablanca was technically independent (part of Vichy France), but in fact under German control. Something like this can happen at Starports on the fringes of a war: The world has declared neutrality to avoid being overrun by one of the belligerents, at the price of having the port "placed at the disposal" of a military force. The "guests" will be carefully watching for signs of sabotage, espionage, or treachery, and the "hosts" may be well aware that their independence will last only as long as the bigger war goes on. The port could also be directly occupied by a hostile force.

The Thin Edge is a prime location for adventures. The characters may be trapped there, trying to get a passage offworld by any means possible. There will be plenty for a smuggler to do: running weapons, food, or medicine, or getting a spy or a political dissident out past the guards and the "guest" fleet. Visitors (PCs or not) may be agents for either side, or covert observers for officially uninvolved powers. If the big war is reaching a turning point, they may be able to help liberate the port.

These kinds of Starports are fairly rare in Imperial-held territory. Most such ports are located outside the Imperium, where wars and occupying forces are more common occurrences. Nevertheless, there are a few locales where Starports of this sort might flourish.

The most likely candidates are fringe sectors of the Imperium, like the Spinward Marches, Trojan Reach, or even Ley Sector. These regions are not wholly under the control of the Imperium and are thus places where warfare may occur. The Spinward Marches has a history of warfare with the Zhodani Consulate, the Sword Worlds, and the Vargr (not to mention Aslan *ihatei*). Worlds that saw action during the Fifth Frontier War, for example, might well have a Thin Edge port.

Several worlds in Jewell Subsector (Spinward Marches B) played significant roles in the recent war with the Zhodani. Chief among them is Esalin (Spinward Marches 1004), a world the Imperium and the Consulate traded back and forth over the course of two wars. During the wars, Esalin might well be home to a Thin Edge port.

The key to placing a Thin Edge port into an established sector is to determine why it would exist at all. The SPA does not allow its ports to degenerate to such a level without powerful outside factors.

Tortuga Ports

Pirate ports - facilities run by and for the sole benefit of ship-bandits - have not been common, but they have existed.

A Tortuga is likely to have excellent facilities and luxurious amenities. This is a place where people who are normally on the run can relax and enjoy their ill-gotten gains. The walls are likely to be hung with rare art - stuff too well known to fence easily - taken from yachts and passenger liners. The best food anyone has been able to steal will be served, and certainly much strong drink. There may well be strict rules governing violence against fellow Brethren of the Stellar Coast while in port: "Save your arms for the Imperial Customs!" Prices will be high - very high.

Within such restrictions, most anything goes here. Loot will be traded, with a percentage being claimed to pay for port operations. There may be an infirmary for injured buccaneers, but the quality of the medical staff may be questionable. The pleasures of the flesh will also be available in quantity, although this is the sort of thing that - no matter how well described by the GM - is never that much fun for the players . . .

A pirate base will survive primarily through secrecy: It will be located in a supposedly uninhabited system, and have identification signs for the legitimate (so to speak) users. Strangers jumping in may be attacked at once, though if there is any chance the intruders might escape, the pirates may simply lie low until they have refueled (or whatever) and gone. There might be a fake "mining camp" or "science station" in the system, both as cover and to allow visitors to be sized up before an attack. Another possibility is for everything except the actual physical structure to be designed with rapid departure in mind. The entire base can pack up and "bug out" very quickly should the need arise.

Even if the authorities locate the base, it will doubtless be well defended. Attackers will have to decide ahead of time what level of casualties is acceptable, and whether their primary goal is to capture or destroy the pirates, or simply to destroy their base of operations.

Piratical adventurers will have obvious use for a Tortuga. More lawfully inclined ones (or actual law enforcers) may be dispatched to locate the base. This dangerous undercover task will be made even more chancy if they also have to act from within to disable its defenses when the attack from space comes.

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STEP 1 - GATHER PLANETARY DATA

Information on the starport's host planet will be needed. In particular, note the starport class, tech level, and control rating of the planet that the starport serves, and whether it is on an Xboat route or a stellar main (a connected series of systems only one parsec apart; see p. GT48).

Example: Throughout this section, we will use Mertactor (1537 Spinward Marches; see p. T:BC77) as our example. Mertactor has a starport class of IV, a TL of 9, and a CR of 1. It is on an Xboat route and a stellar main.

STEP 2 - DETERMINE WORLD TRADE NUMBER

In order to determine the amount of traffic that the planet receives each year, calculate the planet's unmodified world trade number, introduced in pp. T:FT11-12. This involves no more than adding two modifiers:

Unmodified World Trade Number

TL Modifier: This is -0.5 for TL0-2, 0 for TL3-5, 0.5 for TL6-8, 1 for TL9-11, or 1.5 for TL12-13.

Population Modifier: This is the world's Population Rating (see p. S166) divided by 2. (The Population Rating is simply the number of digits in the world's population minus 1. That is, 337 people would be PR 2, 5,712,322 people would be PR 6, etc.)

Example: Mertactor is TL9 (for a TL modifier of 1) with a population of 60 million (for a PR of 7, divided by 2 to reach a population modifier of 3.5). Its unmodified world trade number is 1+3.5, or 4.5.

World Trade Number

The planetary data already should indicate the class of the port. This modifies the world's interstellar trade, of course. Apply the appropriate modifier from the following table to the unmodified world trade number to determine world trade number.

PORT MODIFIER TABLE

UWTN	Starport Class					
	V	IV	III	II	I	0
7+	0	-1	-1.5	-2	-2.5	-5
6-6.5	0	-0.5	-1	-1.5	-2	-4.5
5-5.5	0	0	-0.5	-1	-1.5	-4
4-4.5	+0.5	0	0	-0.5	-1	-3.5
3-3.5	+0.5	+0.5	0	0	-0.5	-3
2-2.5	+1	+0.5	+0.5	0	0	-2.5
1-1.5	+1	+1	+0.5	+0.5	0	0
<1	+1.5	+1	+1	+0.5	+0.5	0

Example: Comparing Mertactor's UWTN of 4.5 with its Class IV starport results in a port modifier of 0. Mertactor's WTN is 4.5.

STEP 3 - CALCULATE PORT SIZE AND ESTIMATED TRADE VOLUME

A port's size for *system traffic* (imports, exports, and passengers that are beginning or ending their journey in the port's star system) is based on the world trade number. Two modifiers affect this:

Distance: If the nearest star system is 1 parsec away, add 1.5. If it's two parsecs away, add 1.

Allegiance: Worlds that are not Imperial or client states subtract 0.5. Round fractions up.

Example: Mertactor is an Imperial world whose closest neighbors lie one parsec away. It adds 1.5 to its world trade number of 4.5 for a total of 6.

Ports on established trade routes have a minimum size, because regardless of the local economy, a substantial volume of traffic will be flowing through the port (transshipping) to other destinations. This is called *transient traffic*.

GMs can establish their own trade routes (see p. T:FT18). Those who do not may simply consider jump-1 mains to be the major trade routes in their campaigns.

Ports on an Xboat route (or main trade route) have a minimum size of 6. Ports on a feeder trade route have a minimum size of 5. Ports on a jump-1 main or minor trade route have a minimum size of 4.

Example: Mertactor is on an Xboat route, so has a minimum port size of 6. This is the same as its calculated port size, so no modification takes place.

The overall port size number can be used as a shorthand designation for how large and busy the port is. Just append the port size number to the starport classification, for example: P/V-8, P/III-4, P/I-0.

Calculate Estimated Trade Volume

This determines the amount of trade a world enjoys from its port size number. These figures include both imports and exports.

ESTIMATED TRADE VOLUME

Port Size	Dtons/Yr	Passengers/Yr	Revenues/Yr	Real Example
0	<10	<1	<KCr2.5	
1	10-100	1-5	KCr2.5-25	
2	100-1K	5-50	KCr25-250	
3	1-10K	50-500	MCr0.25-2.5	
4	10-100K	500-5K	MCr2.5-25	
5	100K-1M	5-50K	MCr25-250	Salisbury, MD
6	1-10M	50-500K	GCr0.25-2.5	Wellington, NZ
7	10-100M	500K-5M	GCr2.5-25	Houston, TX
8	100M-1G	5-50M	GCr25-250	
9	1-10G	50-500M	TCr0.25-2.5	

Average traffic for a port will be three times the minimum for that port size. For instance, the average port of size 5 will handle 15,000 passengers per year.

This value combines system and transient traffic. GMs should compare the port's "natural" size and trade-route minimum, then rule how much traffic falls into each category.

Certain characteristics will skew the number of system passengers per year toward the high end of the scale for a port's size number. All else being equal, a world with the Rich classification (see p. T:FT13) or a subsector capital will see three times as much system traffic as a comparable world. These are tourists and people doing business with the Imperial government. A sector capital usually approaches the upper end of passenger traffic for its port size.

Tortuga Ports

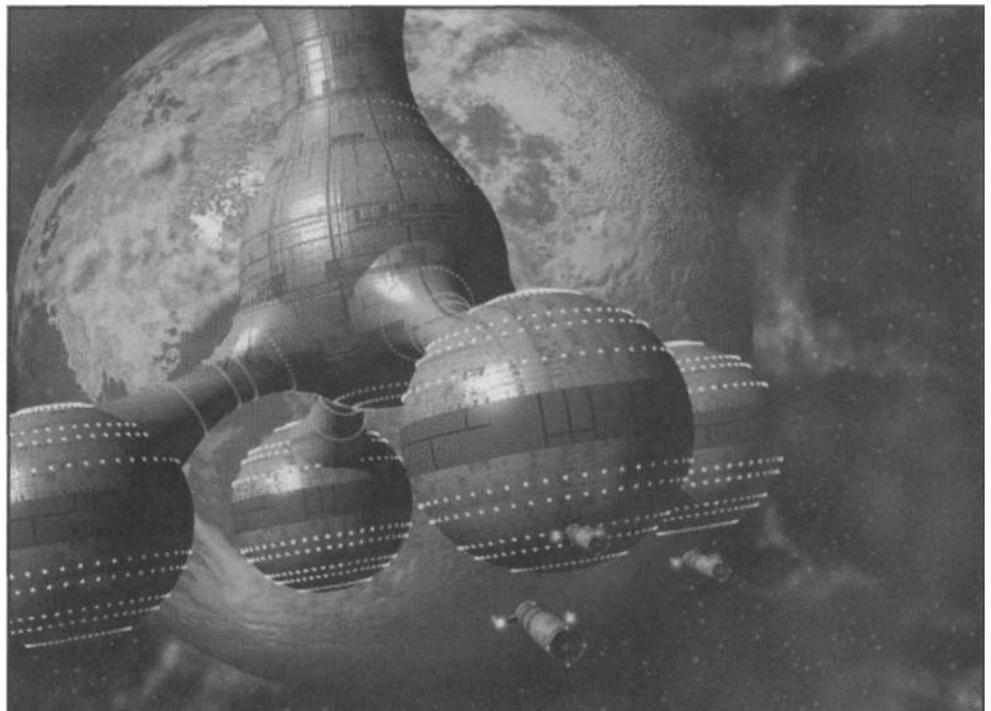
[Continued]

No Imperial world will be home to a Tortuga port. The Imperium looks on piracy and privateering as major offenses. Thus, most Tortuga ports will be located *outside* Imperial space, although many will be found just beyond its borders.

In the Spinward Marches, the Federation of Arden is notorious for providing safe haven to pirates. Two worlds in particular, Tremous Dex (Spinward Marches 1311) and Quare (Spinward Marches 0915) are believed by the Imperial Navy to contain significant Tortuga ports.

Trexalon (Spinward Marches 1339) is another notoriously anti-Imperial world, with a history of providing a safe haven for the Empire's enemies. Given the wild and untamed nature of District 268, Trexalon is in a unique position to use pirates to increase its own power in the subsector.

The Republic of Garoo (Spinward Marches 0130) may also be a supporter of piracy in the Marches. As recently as 1119, the Republic indicated its willingness to sanction privateering against the Darrian Confederation. While the Imperium has joined the Darrians in condemning this policy, it has done nothing to stop it. Imperial diplomats hope that calmer heads will prevail in the end. Thus far, there have been relatively few incidents of Garoo-sponsored piracy, but this could change in the future.



Ports Royal

For every pirate port, there are many more that do legitimate business, but ask no questions about why a ship needed repairs for battle damage, or where the large cash payments came from. The legitimate trader might not notice anything out of the ordinary other than inflated prices (though this might require a serious effort of not looking), but the entire operating hierarchy - administration, brokers, service, and of course security - is to some degree corrupt, kept in line by pay-offs or fear of reprisals.

A Port Royal will likely be rich and fancy; plenty of money is coming in, much of which can't be shown on the official books, and as with Tortuga, the "special" customers will like living well in a place where they can feel fairly safe.

Ports Royal are similar to Tortuga ports, but there are enough differences to warrant discussion. Unlike Tortugas, Ports Royal do not *directly* condone the actions of pirates; they simply "look the other way." Naturally, the Imperium sees little distinction between the two positions. Even so, there are plenty of independent worlds (and a few client states!) on the fringes of Imperial space that indirectly support piracy.

Tarsus (Spinward Marches 1138) is a case in point. A client state of the Third Imperium, Tarsus officially condemns piracy, but its government is too caught up in internal affairs to do much good defeating piracy - even were it inclined to do so.

The same situation prevails among many of the Border Worlds. As clients of the Imperium, they cannot give comfort to privateers against Imperial shipping. However, their internal disorganization and lack of integration into the Imperial mainstream make it inevitable that they do.

The point to keep in mind is that almost any non-Imperial world can be a Port Royal. All that is really needed is a small population, a low tech level, or governmental indifference. Any one of these elements will allow wily pirates a place to fence stolen goods, rest, and repair their ships.

Grand Central Ports

Even the largest passenger ports don't actually "bustle" in the way that, say, a large airport does. Star passengers do not fly multiple "hops" in a day, sprinting between gates to make connections. Multiple-jump trips on a series of ships certainly take place, but the layovers are typically at least a day, if not several days.

The part of this paradigm that does work is the sense of crossroads; People from everywhere, going everywhere, pass through here with a limited time to meet, interact deal, fall in love, come to blows ...

Continued on next page ...

Example: Mertactor's port would be size 6 even without its trade-route minimum of size 6, so the GM rules that it handles enough traffic to qualify as size 6 in each of the system and transient categories. He decides it handles 6 million displacement tons offfreight per year, split evenly between system and transient goods. He also decides that, since Mertactor is a subsector capital, it handles 400,000 system passengers per year and 50,000 transient passengers per year.

Compatibility with Far Trader

For those who own *GURPS Traveller: Far Trader* and want more exact figures, use the following method to determine world trade:

Calculate the effective BTN separately for both passengers and freight for each world with which the planet trades. Consult the tables on p. T:FT16 for freight and p. T:FT17 for passengers, and determine the annual flow of each. Total this over all trading partners. This can be very tedious.

An alternate method is to find the largest BTN for passengers and freight (these may be different worlds) and add 0.5 to each to get an effective total BTN for each category. Consult the tables in this book using these numbers.

STARPORT CONSTRUCTION

GM's not requiring a detailed description of the starport and its facilities can stop here. The following steps provide more detailed information about starport facilities and traffic flow. This information will be needed later in this chapter to build a starport.

STEP 4 - DECIDE NUMBER AND TYPE OF SUBPORTS

The first step in building a starport is determining exactly how many ports that really is. Most Starports consist of one highport and one downport. Some have several downports, to handle system cargo bound for far-flung destinations or to provide individual service to nations on balkanized worlds. A rare few - usually Class V ports with immense traffic patterns - have more than one highport.

All highports and at least one downport are covered by Imperial extralality; they will handle all transient traffic. A world with a starport often will possess several local spaceports, as described on pp. 13-14. These are almost always downports. Most worlds have spaceports numbering between 0.5 and 2 times the starport's class. For instance, a world hosting a Class III starport normally would have anywhere from one to six spaceports. High-tech, rich worlds may boast a few highports among their spaceports.

The GM should determine the number and quality of these installations, based on the following guidelines:

Highports

Almost all Class IV and V Starports have an orbital facility. Most Class III Starports at TL8 and above will have a highport. The highport serves primarily bulk, container, and LASH cargo, as well as transient passenger traffic. Lighter and shuttle service connects this port with the surface.

Unstreamlined ships carry approximately 60% of all interstellar shipping. Most traffic (by volume) consists of bulk freighters stopping to refuel en route to another system. The downport is probably more important to player characters, but the SPA considers the highport to be where the serious work of the starport is accomplished.

The orbital element of a starport tends to occupy a synchronous orbit above the equator at the longitude of the main downport. (For satellites of gas giants, a low orbit or Trojan point may be a better option.) Where a highport exists, it will play a major role in traffic control; its position usually allows it to maintain superior contact and line of sight with all traffic. Highports also provide facilities for moving cargo and passengers from larger vessels. All unstreamlined vessels must call at the highport, and most captains of larger streamlined ships prefer using the highport when the option is available.

A typical highport features docking bays, construction and repair facilities, refueling stations, accommodations for travelers not wishing to make the visit to the planet's surface, and extensive short-term cargo stowage for those periods when interstellar and ground-to-orbit shipping capacity don't match up well. Some highports also will have extensive shipyard facilities, but this is not always the case. Many highports will possess construction facilities sufficient only for routine jobs.

The size of a highport will vary greatly from world to world. The volume of traffic and the world's placement on interstellar trade routes will play a significant role in determining this. Worlds with naval or scout bases will tend to have larger and more extensive orbital facilities than those that do not.

Though there is rarely any need to construct more than one highport in a system, a handful of worlds utilize more than one highport. When it does occur, it is usually for the same reasons that there is more than one downport: balkanization or a large flow of traffic. In a similar vein, worlds with an extensive military presence might possess more than one highport, as the navy or scouts usually do not wish to share facilities (other than shipyards) with civilian and commercial vessels.

Worlds without highports serve unstreamlined ships with a combination of shuttles, lighters, and oilers (liquid-hydrogen tankers).

Downports

A surface downport is the most basic type of starport; all Class 1 Starports are of this type, as are most Starports on planets with non-hostile atmospheres. Downports handle some containers, but mostly breakbulk, lighter/shuttle, and passenger traffic. Worlds served by the SPA always possess at least one downport.

A downport usually consists of a very large parcel of land with several installations. These include (but are not limited to) a cargo-handling facility, berths, hangars, a service facility, and at least one control tower.

Subsurface Downports

These are facilities set into or beneath the surface of the planet. This is common on asteroids, vacuum and hostile planets, and planets with extreme temperatures. Underwater Starports on water worlds also fall into this category.

Example: Mertactor has a breathable (if hot) atmosphere, four continents, and the TL/starport combination to support an extensive orbital facility. We decide on one Imperial surface downport, one Imperial highport, and four local downports.

Most Starports above Class I possess both ground and orbital elements. Both elements are assumed to exist at a given starport unless otherwise noted.

STEP 5 - DETERMINE SUPPORT CAPACITIES

Subport capacities in cargo and passengers are based on traffic *per week*. Divide the figures determined in Step 3 for annual freight and passengers (both transient and system) by 50 to determine rough weekly capacity.

Example: Mertactor requires the weekly capacity to handle 60,000 displacement tons each of transient and system freight, 8,000 system passengers, and 1,000 transient passengers.

Divide Traffic by Type and Destination

Arrange cargo by handling category and destination.

All transient freight usually will be handled at the highport. (Since it's harder to expand capacity at a highport than a downport, the GM may rule that some percentage of transient freight traffic is handled on the surface, reflecting a local economy that has outstripped its highport's capacity, but this should be rare.)

Grand Central Ports [Continued]

This paradigm is more common than the others, but still requires very specific conditions to exist. In general, a starport qualifies as a Grand Central port if it is located at the juncture of two or more major routes. A glance at the Xboat routes through the sector will indicate whether this condition exists.

Worlds like Jewell (Spinward Marches 1106) and Regina (Spinward Marches 1910) are excellent examples of this principle in action. Of course, simply because a world is at an Xboat hub does not necessarily qualify it as a Grand Central port. A GM should use common sense and a little forethought before assuming a world is a major site for starship traffic. Worlds with an Amber or Red zone classification, for instance, will rarely be traffic hubs.

Another consideration to bear in mind is that Grand Central ports tend to be Class IV or V Starports. Exceptions do exist, but GMs should take into account the needs of a Grand Central port: hotels, shops, and other diversions to keep travelers occupied while they await their next starflight. These sorts of amenities aren't as readily available at Class III and lower ports.

Ghost Ports

Some ports are no longer in service. The world may be depopulated, due to war, plague, or economic collapse. The SPA may have decided to build a new port in a different area. A few ghost starports are located on worlds that have no record of occupation; these are archaeological mysteries, and there are not enough archaeologists to explore them all. Most ghost ports are spooky, empty, windblown places - acres of cracked concrete and rusting buildings. Some become smuggler's coves; others collect squatter populations, people who have rejected (or were rejected by) the other locals. Once in awhile a growing world will decide to redevelop the Old Landing as an industrial or housing complex.

After many centuries, it is unlikely that any "treasure," or even anything salvageable, remains at a ghost port. The odds rarely stop treasure hunters.

Ghost ports can be found almost anywhere. There is a greater likelihood of finding one on a well-established and populous world than there is on a new colony. Most likely the SPA has abandoned oversight of the port, so the locals have legal jurisdiction.

The manner in which Class I ports are created contributes to the existence of Ghost Town ports - the site rarely is chosen with much thought toward expansion needs in the far future.

Exchange Rates

Some Imperial member worlds maintain their own currency. Purchasing goods at the Imperial starport requires Imperial credits; purchasing them outside the XT line requires local credits. (Startown merchants, particularly the shady variety, generally accept both.)

The local currency may go by a name other than credits; this doesn't matter. What does matter is its purchasing power, which is determined by the local tech level (see below).

The following figures are averages; they assume that the average TL12 world maintains the same ratio of currency to population as the Imperium maintains in extraplanetary commerce. The GM should feel free to adjust the exchange rates on any particular world to suit local economic factors (i.e., his own needs . . .). Theoretically, a TL12 world's currency could be valued at a *premium* compared to Imperial currency, but the odds of this happening outside a period of Imperial upheaval are slight.

The bottom-line impact of these exchange rates is that, on worlds of less than TL12, Starport Authority employees enjoy a purchasing power above their salary level. Since most of them will be living, eating, and entertaining themselves outside the XT line, they will enjoy the necessity of converting Imperial-credit salaries to local credits.

This also benefits the SPA, as it hires local labor to build or improve its starports, but other factors reduce the exchange-rate benefit in this case. See p. 67.

Starport employees who live within the XT line will not benefit from the local exchange rate, nor will the SPA on construction projects that it handles with its own personnel and equipment.

Exchange Rate Table

TL	Imperial Credits to Local Credits	Local Credits to Imperial Credits
12	1.0	1.0
11	2.0	0.50
10	3.2	0.31
9	5.0	0.20
8	8.0	0.12
7	13.0	0.075
6	20.0	0.05
5	33.0	0.03
4	50.0	0.02
3	100.0	0.01
2	145.0	0.007
1	200.0	0.005
0	330.0	0.003

Among system freight, bulk and containerized goods are usually transported by unstreamlined starships, routinely handled at the highport. Breakbulk and roll on/roll off goods will generally move directly to the downports. Of all the cargo that the typical system sees, 50% will be bulk, 30% breakbulk, 10% containerized, and 10% roll on/roll off. This means that on average 60% of system freight will be offloaded or onloaded at the highport and 40% at downports.

System freight handled at the highport becomes *transfer traffic*, requiring lighters to transport it from world surface to orbit or vice versa. It counts toward both highport and downport handling needs.

If there is only one port (which will be a downport), all traffic necessarily flows through it. Transfer-traffic needs will continue to exist, to service unstreamlined ships in orbit. Adding fuel resupply needs and the inconvenience of not being able to stage cargo at the highport, many more small crafts and lighters will be needed to perform this service.

Spaceports handle an average 13% of system traffic, but this percentage varies widely. In a system with no local spaceports, the SPA downport will handle all system traffic, of course, while in a system with 10 spaceports, the Imperial downport might handle only 30% of system freight, with 70% handled at the spaceports. Whatever the spaceports' percentage of traffic might be, it need not be divided equally among them, and usually isn't.



Example: The GM rules that Mertactor's highport can handle all 60,000 displacement tons of transient freight each week. The highport must also handle 30,000 dtons of bulk and 6,000 dtons of containerized system freight prior to transfer, for a total weekly capacity of 96,000 dtons. The downports must handle 60,000 dtons of system traffic. We decide that 40,000 dtons pass through the starport and the remainder through the local spaceports. For simplicity, the GM rules that 5,000 dtons each pass through the four local spaceports.

Among passengers, the highport will handle all transient traffic, but an average 10% will have a layover lengthy enough to take in the local sights, requiring that the main downport also process them. This counts as 20% of transient traffic, since it's always a round trip. The main downport must process all system passengers, and 90% will transfer to the highport in the process as well (to board large passenger vessels). Most local spaceports don't accommodate passenger traffic, other than perhaps a few local government officials.

Example: Mertactor's highport sees 1,000 transient and 7,200 system passengers per week, for a total of 8,200 passengers. The downport sees 8,000 system and 200 transient passengers per week, for a (coincidentally identical) total of 8,200.

Determine Tonnage of Starships Served

The average starport serves 1.5 displacement tons of starship per displacement ton of cargo each week (keeping in mind that most ships contribute to both import and export values on each visit), and 5 dtons per passenger (keeping in mind that for many purposes of starport services, ships' crews count as passengers, and once again each ship counts as bringing in one complement of passengers and leaving with another).

These figures do *not* count transfer traffic. Unless the GM has altered the standard arrangements, the highport handles the starships transporting all transient freight and passengers, 60% of system freight, and 90% of system passengers. The SPA downport handles 27% of starships carrying system freight and 10% of system passengers. The local spaceports divide up the starships carrying 13% of system freight.

Example: Mertactor's starport serves 180,000 displacement tons of cargo capacity and 45,000 dtons of passenger capacity each week, for a total of 225,000 dtons of commercial starship traffic. Of this, the highport handles 185,000 dtons, the downport 28,300 dtons, and each of the four local Starports 2,925 dtons.

Determine Private Capacity

At this point, the GM should make a general ruling about how much cargo is handled by full-time private interests leasing starport space. While Imperial Starports *house* all the cargo passing through a system, SPA personnel *handle* on average only 75% of the goods - the remainder is handled by employees of shipping companies at leased berth and warehouse space. This can vary from as little as 0% (at Starports with no full-time tenants that employ their own freight handlers) to 90% (for Starports serving the homeworld of a megacorporation).

Passengers also can be privately handled (for instance, by a megacorporation that maintains its own terminal for visiting and departing employees), but this is seen much less frequently.

Example: The GM rules that private businesses hold full-time leases on a good percentage of Mertactor starport's warehouse capacity, but none handle their own freight. All employ SPA resources for the task. All passenger terminal and transport functions are also handled by the Imperial staff.

Determine Shuttle and Lighter Requirements

People and cargo must move between highports and groundports on a regular basis. (This includes port employees - on high-tech worlds it is generally more efficient to house highport employees on the planet's surface and shuttle them to and from work every day - but these shuttle needs will be calculated later in this process.)

Most Starports maintain regular shuttle flights to ferry people and cargo from ground to orbit or back again. SPA shuttle service tends to be quick and efficient.

A few worlds with immense traffic patterns, fragile ecologies, or poor industrial resources for supporting gravitic technology seek alternative methods. These sometimes employ orbital elevators (known colloquially as "beanstalks") built of ultra-tech materials. These are essentially skyscrapers that extend into orbit (though technically satellites that dangle to earth) and can handle a constant stream of passengers and cargo. Usually the highport is the "penthouse" of the orbital elevator with the primary downport as the "lobby." Another method is to shoot durable cargo (*not* passengers or anything that can't withstand *extreme* acceleration) into orbit using massive electromag guns with barrels hundreds of miles long. This is substantially cheaper than shuttle service though *far* less environmentally friendly.

Construction Times

Building a starport is a massive undertaking, often spread out over centuries. These design rules assume that the port is already complete; any "construction" is done by the GM! It may happen, however, that a starport must be built or extensively upgraded during the course of a campaign. Creation of Class I starports has been covered on p. 8. For other types of construction, use the following:

Total the cost of all new construction or upgrades. Convert Cr2,000 from local credits to Imperial credits (using the special SPA formula on p. 67, not the sidebar on p. 62) to get "credits per man-day." This is not actually a currency conversion, but a measure of relative productivity at different TLs. Divide the total cost by that amount to determine the number of man-days required to complete construction. Time to complete is this figure divided by the number of skilled workers available. For most worlds, skilled labor is at most 0.1% of population; new colonies may have up to 10 times more. The maximum number that can work on any project is a function of size: no more than 1 worker per dton (highport) or 9,600 workers per square mile (downport).

Additional workers can be brought in from outsystem. The maximum number that can be supported is 10% of the local population or 100,000 people, whichever is greater. Support personnel (cooks, clerks, supply, medics, etc.) equal to 1/2 the worker population in excess of 10% of the local population must be added. Each person, worker or support, in excess of 10% of the population requires 0.2 dton of imported supplies per month, at Cr10,000 per dton. Housing must also be supplied. Tents cost Cr100 per person and last for one year, after which they are worn out and discarded; they are erected at the same rate as buildings (Cr2,000 x exchange rate per man-day). Tentage for 7,500 people takes up 1 dton as cargo, weighs 8 stons, and costs MCr0.75; erected, it covers one-third of a square mile. Temporary housing for 100 (including services) is 200 dtons, 120 stons, and MCr0.3, and takes up a 120-yard by 120-yard square when erected.

Example: The Mertactor Starports collectively cost 17 billion credits. One laborer can build Cr2,000 x 0.2 = Cr400 per day at TL9. If Mertactor were to build similar facilities from scratch, the project would require 42.5 million man-days. Mertactor's population of 60 million can supply 60,000 skilled workers, who could complete the project in 708 days (just under two years). If desired, 40,000 additional workers could be brought in, along with 20,000 support personnel. Time to completion drops to 425 days (14 months), at a cost of MCr18 in housing and MCr120 per month in supplies.

Other Design Considerations

The design information in this chapter is far from exhaustive. Local conditions always take precedence over any standard procedures mentioned therein. While SPA prefers to set protocols and employ standard designs, there are occasions when such things are insufficient. In these instances, innovation is required. A few of the more common considerations are discussed below.

Hostile Environments

With more than 11,000 worlds in Imperial possession, it's a certainty that not all of them are the most pleasant of places. Indeed, in some subsectors, a great many worlds possess environments that are not friendly to Human (or other sophont) life. At the same time, many of these hostile worlds possess something worth exploiting. And if there is something worth exploiting *on* the world, there's a good bet that it will also be worth exporting *off* the world.

This is where Starports come in. Without a starport, it can be very difficult to arrange for the transport of anything off a planet's surface. It can be done, of course, but the cost is usually quite prohibitive.

At the same time, building a starport on a world with a hostile environment can be a risky business. Many of the verities taken for granted on more hospitable worlds do not hold true. For instance, the safe storage of HAZMATs and fuels is even more of a priority on a world with a dense or corrosive atmosphere. Likewise, traffic control and sensor nets need to be especially good on worlds where local conditions reduce visibility. Other examples are easy to imagine.

The point is that Starports on environmentally hostile worlds are often designed differently than those elsewhere. They have most of the components described previously, but many of them will be altered or modified in a fashion to allow them to withstand local conditions. These alterations can (and frequently do) increase the cost of a starport. For this reason, hostile worlds often do not have the best Starports that local technology would allow.

Of course, when a hostile world *does* possess a Class IV or V starport, there is a good reason. Even SPA's zeal only goes so far. Building an expensive and heavily modified port on a planet with an insidious environment will only be done if there is some need. Determining exactly what that need is can be an aid to a beleaguered GM looking for a way to spice up his campaign.

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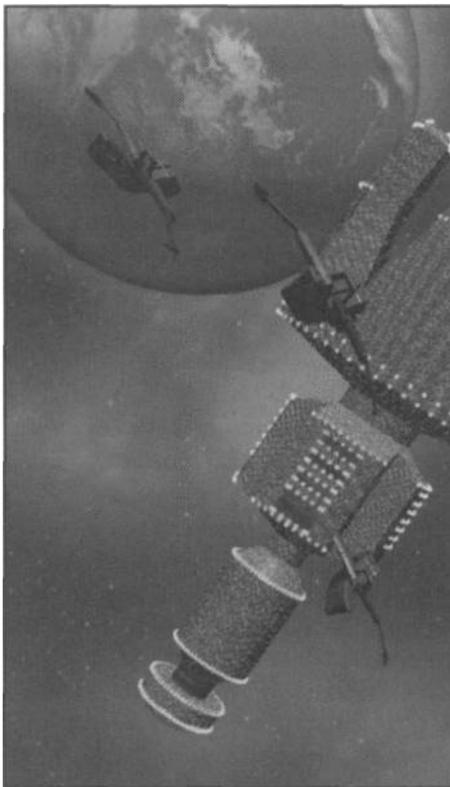
As mentioned previously, 60% of system freight, 90% of system passengers, and 20% of transient passengers will require transfer from highport to downport(s) or vice versa. Unless an alternate technology is used, the starport must possess lighters and shuttles to provide this service, minus whatever percentage of system freight and passengers are privately handled. On average, each displacement ton of cargo hold or passenger couch can serve 30 dtons of transfer cargo or 30 transfer

passengers each week, assuming nonstop service and routine usage of capacity.

The GM should select appropriate small craft and non-starships from pp. GT139-143 and p. T:FT137 to fill these needs. In general, any one craft shouldn't provide more than half the capacity, and several crafts providing a small fraction of capacity should be used for convenience of service.

In a system without a highport, the same amount of traffic will require transfer from orbit, but the downport must provide *triple* the amount of small crafts and non-starships to meet this need; i.e., one cargo hold or passenger couch per 10 dtons of cargo or 10 passengers. In addition, fuel tankage equivalent to 1% of the starship displacement tons that would normally be served by a highport must be provided in oilers (see p. T:FT137) or similar shuttles.

Crew requirements for nonstop service will be five times the listed number.



Example: Mertactor's starport must be able to transfer 36,000 displacement tons of cargo and 7,400 passengers each week. This requires 1,200 dtons of cargo hold and 247 passenger couches. The GM determines that a single 800-dton general purpose lighter (p. T:FT137) provides 548.5 dtons of cargo capacity, a single 30-dton ship's boat (p. GT140) provides 96 passenger couches and 8.5 dtons cargo space, two 50-dton modular cutters with passenger modules (p. GT142) provide 96 passenger couches and 39 dtons of cargo space, 25 50-dton modular cutters with cargo modules (p. T:FT137) provide 600 dtons cargo space, and two 10-dton launches (p. GT139) provide 72 passenger couches and 6 dtons cargo space. This totals 1,202 dtons of cargo capacity and 264 passenger couches. The 31 vessels require a staff of 485 for nonstop service. They cost MCr248.8.

If Mertactor didn't have a highport, we would have had to provide 3,600 dtons of cargo hold and 741 passenger couches, plus 1,850 dtons of fuel tankage!

LASH Requirements

In LASH operations (as described on p. T:FT65), freighters carry lighters with them, unleashing the inbound non-starships on arrival and picking up the outbound replacements after transiting to their outbound jump point. The freighters avoid the delay required by visiting the starport itself, but a given lighter doesn't tend to return to any given system.

For this reason, LASH lighters almost always are private property, usually owned by the merchant line that set up the LASH operation. The SPA does count LASH cargo among a starport's tonnage totals, and likewise a small amount of LASH operations is assumed in the above starport small-craft needs. In a system with extensive LASH operations, the GM should reduce the starport's own small-craft needs to reflect the alternate means of transfer.

In general, combining LASH operations, other private handling, and business (such as conferences) not reflected in passenger and cargo tallies, the average SPA starport will be visited by two to four displacement tons of private small craft and non-starship for every dton of small craft and non-starship that it employs itself.

Other Design Considerations

[Continued]

DETERMINE PORT INCOME AND POPULATION

A starport's rough annual income can be derived from its traffic. Multiply freight tonnage or passenger count by the given figure in each of the following categories:

System freight handled at Imperial downport	Cr170
System freight handled at local spaceport	Cr160
System freight handled privately	Cr150
Transient freight	Cr140
System passenger	Cr500
System passenger handled privately	Cr450
Transient passenger	Cr460

These figures only reflect Imperial revenue. They do not include local tariffs (nor Imperial tariffs, since none will exist unless the GM rules they do).

Example: *Mertactor's starport has no private handling of cargo or passengers, and the local Starports handle 1 million displacement tons of the total 3 million dtons of annual system freight. Multiplying (Cr140x3 million) for transient freight, (Cr170x2 million) for system freight handled by the Imperial starport, (Cr160x1 million) for system freight handled by local downports, (Cr500x400,000) for system passengers and (Cr460x50,000) for transient passengers produces a grand total of 1,143 million credits or MCr1,143 in annual revenue.*

Divide the annual revenue by Cr200,000 (or MCr0.2) to estimate the number of Imperial employees at the port. (The average SPA employee costs about Cr25,000 annually in salary, benefits, transit costs, training, etc. Given the ultra-tech efficiencies enjoyed by SPA facilities, personnel costs represent a much smaller fraction of total expenses than they would for the average 21st century business.)

Example: *Mertactor's port employs MCr1,143/MCr0.2, or 5,715 people.*

Later on, when assigning personnel from the above pool to specific port functions, the GM should remember that most port services operate 24 hours a day, in three shifts. Multiply any personnel requirements by five to figure total workers required taking into account weekends, vacations, and the like. Administration offices often only stay open during the local equivalent of the "9 to 5" shift; in slack periods shipyards do the same. Small ports may have only part-time personnel.

Each worker will support a single dependent *on average* (many will be single and live alone, while others will be two SPA-employed parents supporting several children). Circumstances at the port will determine how many workers and family members are housed on the port itself, and how many beyond the XT line in the surrounding city. If on the port proper, housing will normally be located at the downport. Workers commute to the highport by shuttle.

It sometimes happens that the calculated port population exceeds that of the mainworld itself. In this case, the port employees are mostly transients, brought to the world specifically to work in the port. These guest workers will normally return home when their employment is done. Alternately, robots may do most of the manual labor at such a port; the "personnel" costs then go to maintenance and replacement of these devices.

Example: *The starport "community" on Mertactor numbers about 11,430 people. The GM rules that the world is politically very stable (since it belongs to an Imperial Navy admiral), and therefore the port director freely integrates SPA personnel with the local populace. All are housed outside the XT line.*

Opposed Worlds

As mentioned previously, the SPA must occasionally operate Starports on worlds that are politically opposed to the goals of the Third Imperium. Building a starport on such worlds can occasionally be another source of difficulty for SPA. Unlike environmentally hostile worlds, Opposed worlds present a subtler set of demands on starport architects and engineers. Starports on Opposed worlds tend to be Hardlined, having a fence or other barrier along the perimeter of the XT line. The height, width, and strength of these walls will vary according to the level of opposition encountered. Not all Opposed worlds are willing to use violence against an Imperial starport. Some are quite eager to do so.

The sophistication of any fence will vary with both the local tech level and control rating. Naturally, worlds with stricter control ratings often demand that the SPA install more extensive and elaborate fences, to suit the local agenda! The same holds for worlds with higher tech levels. Thus, a world with a low control rating will warrant only a simple fence to mark the XT line, while one with a high rating demands clearly marked mine fields and other destructive traps. A world with only low technology would require only the use of human guards, while a high-tech world might suggest the use of a neural activity sensor or something similar.

Again, the GM must carefully think about local conditions before determining design of a starport on an Opposed world. Doing so will not only save him trouble later, but may also provide details to add richness and depth to his scenarios.

Non-SPA Designs

While most Starports encountered by interstellar travelers will be SPA-run, they are not the only possibilities.

Navy, scout, non-Imperial, private, megacorporate, and local ports also exist. These have already been touched upon (see pp. 11-16, and sidebars, pp. 66-68). More commonly, particular errands will take merchants to a planetary spaceport (see pp. 13-14).

Any of these non-SPA Starports could embody radically different design philosophies - as could an SPA port that it inherited from a previous owner. For instance, intermingling Startown with the port grounds - something the SPA avoids - is very common at Vargr ports. Even stranger practices can be encountered. The inventive GM who thinks he has a better (or more fun) way of handling star traffic should feel free to implement it at any of these non-SPA ports.

Naval Bases

Though the SPA shares several star systems with naval bases, it does not build their facilities. Usually, the naval base will have its own, distinct highport and downport. The downport often will adjoin the SPA downport.

GMs can design naval bases with a few modifications of the rules in this chapter and the following guidelines. In general, naval bases store more fuel than similarly sized civilian installations. Their berthing needs vary widely as well. Hulls and downport buildings will be better armored and defended than SPA counterparts.

Bases are port facilities for the support, maintenance, repair, and refit of naval vessels. Surface facilities are generally provided for vessels of 5,000 displacement tons or less; orbital facilities handle larger ships.

Navy bases are the home of the Imperial Navy. They are much smaller than *depots* (which encompass entire star systems), but most naval vessels are serviced at bases rather than depots. Naval *stations* are smaller facilities, with no permanently associated squadrons, that provide the same types of support on a more limited basis. Naval bases are covered in more detail in the forthcoming *GURPS Traveller: Imperial Navy*.

There are five classes of naval station or base. The figures reflect overall highport and downport capacity:

Class I Naval Station

Commanding Officer: commander

Provides: resupply and refueling for couriers and escorts; light maintenance

Civilian Starport: II

Size: 4-5

Military Personnel: 200-400

Civilian Personnel: 100-200

Family Members: 500-1,000

Marine Contingent: squad+ (usually detachment from embassy platoon)

Berthing Capacity: 20,000 dtons

Fuel Capacity: 12,000 dtons

Warehouse Capacity: 10,000 dtons

Cost: GCr1

Class II Naval Station

Commanding Officer: captain

Provides: resupply, refueling, light and heavy maintenance, and repair for all classes of vessel

Civilian Starport: III

Size: 5-6

Military Personnel: 1,000-2,000

Civilian Personnel: 500-1,000

Family Members: 2,500-5,000

Defenses: 8-10 fighters

Marine Contingent: platoon+

Berthing Capacity: 25,000 dtons

Fuel Capacity: 100,000 dtons

Warehouse Capacity: 25,000 dtons

Cost: GCr6

Continued on next page...

Highport vs. Downport Employment

At the average SPA starport, half of employees work at the highport and half at the downport. (Labor is flexible. Even though the highport handles a greater percentage of traffic in most systems, the "sticky" and labor-intensive jobs are delegated to the downport to minimize highport personnel needs. Likewise, transfer-craft crews are considered downport personnel, though they spend most working hours in flight.)

If a system has only a highport or downport, all employees work there, of course. If it has multiples of either, then all downport or highport personnel are spread among the appropriate ports. This will tend to skew the above half-and-half ratio as well; for instance, in a system with two downports and one highport, it's more likely that something like 40% of personnel work at the highport, with 30% each at the two downports.

Example: Of our 5,715 personnel, we decide that 3,000 work at the highport and 2,715 at the downport.

Employee Shuttles

Starports shuttling employees from ground residences to highport jobs must provide shuttles for the task. This is a very predictable traffic flow, so the shuttles' capacity is much more efficiently used than in the transfer traffic provided for previously. Most SPA Starports also stagger work shifts to increase each shuttle's utility.

The highport requires one passenger couch for every eight highport employees. These could, theoretically, be all within a single large shuttle. These small craft do not require any stewards. Their crews are multiplied by five to represent nonstop service.

Example: Mertactor starport requires (3,000/8) or 375 passenger couches in employee shuttles. Two 100-dton shuttles (p. GT141) provide this capacity. They require crews totaling 30 personnel and cost MCr26.8.

STEP 7 - DETERMINE CONSTRUCTION BASICS

The above steps breaking down traffic flow, and determining port income and personnel, give enough information to begin actually designing the physical starport.

Most Imperial Starports will consist of two physical entities, of course, a highport and a downport. Highports are built using the starship design sequence on pp. GT 149-162, taking into account their unique needs as essentially huge non-starships.

For simplicity, downports will be built using some simple modifications of those same rules. This also reflects that Imperial downports incorporate very sturdy construction. They also boast vacuum-, electronic warfare-, and NBC-proof seals on most buildings, and full life-support measures as further support against ultra-tech NBC warfare or natural disaster. In short, they're built to the standards of a non-starship that's permanently emplaced on the world's surface.

Determine Tech Level

An Imperial starport will be built to TL10 standards, except on TL12 worlds, where the SPA will use TL12 technology. This reflects the TL options available in the *GURPS Traveller* spaceship design process.

Example: A TL9 world, Mertactor will possess a TL10 Imperial starport.

Determine Construction Budget

Starports are normally financed by the issue of low-risk Imperial bonds. These bonds pay a 3% dividend per year, which the SPA must pay out of its annual revenues. Only about 10% of SPA revenues can be spent this way, so the total construction cost for the average starport is effectively limited to 3 1/3 times its *projected* annual revenues. The GM may simply decide that the Imperial economists nailed their trade projections, and make this figure 3 times the annual revenue determined on p. 65. Or he can adjust it up or down to reflect faulty forecasts and/or changes in trade patterns since the port's construction.

Starport services are billed in Imperial credits, but local contractors can be paid in local credits, effectively increasing the construction budget in line with the exchange rates discussed in the sidebar on p. 62. Unfortunately, this isn't a standard exchange conversion for several reasons. Some port components are too sensitive to be handled by outside contractors. As the tech level of the host world declines, its local labor can provide fewer services to the SPA. There's also an exchange "spike" created by the SPA's policy of building only TL10 or 12 ports.

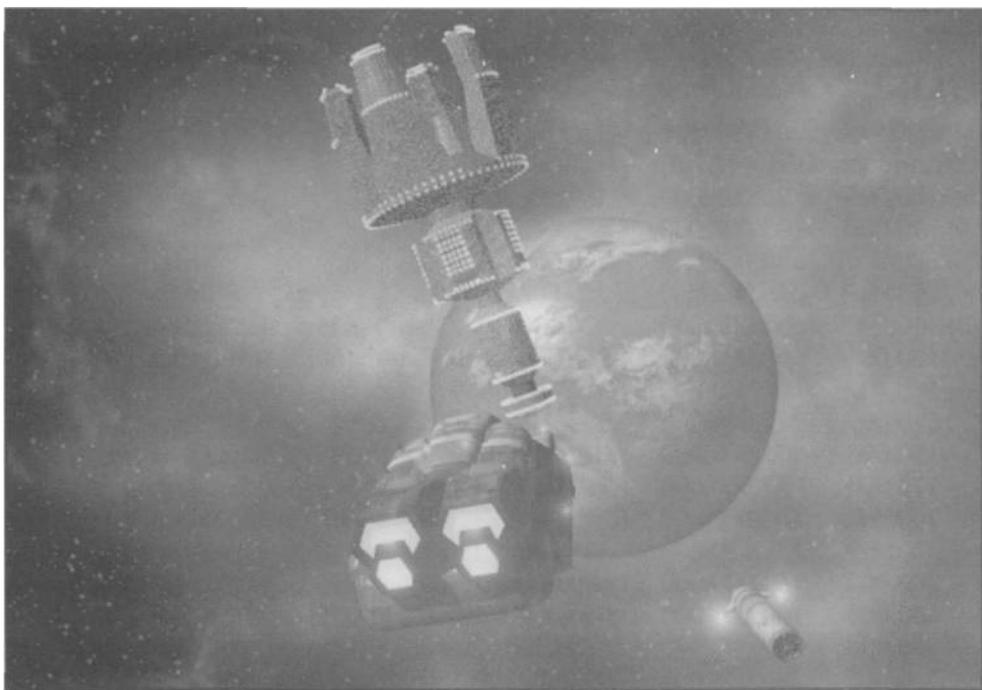
On Imperial worlds, multiply the construction budget by 1 on TL12 worlds, 1.5 on TL11 worlds, 2.75 on TL10 worlds, 3.75 on TL9 worlds, 4.8 on TL8 worlds, 5.85 on TL7 worlds, and 6 on TL6 or lower worlds. The GM should feel free to drastically reduce this multiplier on worlds with labor shortages (see sidebar, p. 63) or difficult Imperial relations.

Example: Since we're not building a new port, but rather designing an existing port that's had time to expand to meet demand, we base Mertactor starport's construction budget on its real annual revenue of MCr1,143, giving a construction budget of 3.8 Imperial gigacredits. On TL9 Mertactor, local contracting increases this to an effective GCr14.29.

Starport construction bonds are generally rolled over or reissued at the end of their term, so there is no need to consider paying off the bond principal.

This budget is often not adequate to pay for all required facilities, especially at small or infrequently visited ports. In this case, the SPA shifts surplus revenues from large, lucrative ports to subsidize the additional dividend payments.

The SPA normally does not pay for local spaceports; these are the local government's responsibility. They can be designed using this system; the GM should set a budget as he sees fit.



Determine Downport-Site Size and Cost

A downport must sit on physical property. Usually the local government gives this site to the Imperium free of charge, but in certain circumstances the SPA will have to pay. (The cost can vary so widely that the GM will simply have to rule what it will be.)

A comfortable size for a downport site would be (displacement tons served)/50,000 in square miles. This formula can safely ignore a normal amount of transfer traffic, but for downports that heavily service shuttles and non-starships (such as those with no high-port), these tonnages will need to be added into the starship tonnages.

Naval Bases

[Continued]

Class III Naval Base

Commanding Officer: commodore
Supports: squadron (200,000-250,000 displacement tons)
Civilian Starport: IV+
Size: 6
Military Personnel: 4,000-5,000
Civilian Personnel: 2,000-5,000
Family Members: 12,000-25,000
Defenses: 2-4 SDBs, 10-20 fighters, 3-5 turrets, 1-2 bays
Marine Contingent: company+
Berthing Capacity: 25,000 dtons
Fuel Capacity: 100,000 dtons
Warehouse Capacity: 25,000 dtons
Shipyards: 6,000-10,000 dtons
Cost: GCr12

Class IV Naval Base

Commanding Officer: fleet admiral
Headquarters: subsector numbered fleet or reserve fleet
Supports: 4-6 squadrons (2 million-10 million dtons)
Civilian Starport: V
Size: 7-8
Military Personnel: 40,000-200,000
Civilian Personnel: 20,000-200,000
Family Members: 120,000-900,000
Defenses: 10-20 SDBs, 50-100 fighters, 4-6 bays, 1-2 deep meson sites
Marine Contingent: task force+
Berthing Capacity: 1 million dtons
Fuel Capacity: 4 million dtons
Warehouse Capacity: 1 million dtons
Shipyards Capacity: 100,000-400,000 dtons
Cost: GCr250-GCr400

Class V Naval Base

Commanding Officer: fleet or sector Admiral
Headquarters: sector named fleet
Supports: 12+ squadrons (10 million-75 million dtons)
Civilian Starport: V
Size: 8
Military Personnel: 200,000-1.5 million
Civilian Personnel: 100,000-750,000
Family Members: 600,000-4.5 million
Defenses: 100-200 SDBs, 500-1,000 fighters, 25+ deep meson sites, other weapons in proportion
Marine Contingent: regiment+
Berthing Capacity: 7.5 million dtons
Fuel Capacity: 30 million dtons
Warehouse Capacity: 7.5 million dtons
Shipyards Capacity: 1-2 million dtons
Cost: GCr1,600-GCr2,000

Scout Bases

Scout bases follow the same guidelines as in the *Naval Bases* sidebar, pp. 66-67.

Xboat Station

At each system in the Xboat network, an express boat station handles the message traffic and manages Xboat traffic.

Supports: Xboat tender, 3-5 Xboats, 2-3 scout ships

Civilian Starport: 11+

Size: 3-4

Scout Personnel: 25-50

Family Members: 100-200

Berthing Capacity: 2,000 dtons

Fuel Capacity: 1,000 dtons

Warehouse Capacity: 100 dtons

Cost: MCr250

Scout Base

These tend to be downports with basic facilities for refueling and minor maintenance of scout ships of 1,000 dtons or less.

Supports: 3-4 survey ships, 5-12 scout/couriers

Civilian Starport: II+

Size: 4

Scout Personnel: 200-300

Family Members: 2,000-2,500

Berthing Capacity: 2,000 dtons

Fuel Capacity: 1,000 dtons

Warehouse Capacity: 100 dtons

Cost: MCr400

Scout Way Station

A large base devoted to the overhaul and refit of express boats at points in their journey, a way station can be converted to a Class I naval station (takes a team of naval engineers two weeks). The navy equipment is present at all times, mothballed if not in active scout usage.

Supports: 2-4 Xboat tenders, 200-250 Xboats, 15-20 scout/couriers

Civilian Starport: II+

Size: 5

Scout Personnel: 800-1,000

Civilian Personnel: 5,000-6,000

Family Members: 18,000-20,000

Berthing Capacity: 20,000 dtons

Fuel Capacity: 12,000 dtons

Warehouse Capacity: 10,000 dtons

Shipyards Capacity: 5,000 dtons

Cost: GCr2

Other Installations: Trade Stations

These serve as a clearinghouse for merchant dealings. Several Imperial agencies and private concerns maintain these.

Provides: language translation, brokerage, warehousing, local information, commodities exchange - all usually for free.

Civilian Starport: I+

Size: 3

Personnel: 15-20

Family Members: 45-60

Berthing Capacity: 600 dtons

Warehouse Capacity: 100 dtons

Cost: MCr18

A downport could make do with a site half this size, though noise pollution will be high on adjacent properties. It might *squeeze* into a space one-tenth the size (if built in a skyscraper fashion). Many downports feature sites much larger than this formula dictates, to provide security buffers, reduce noise pollution, and facilitate expansion.

Example: Mertactor's downport has a comfortable site size of 28,300/50,000, or 0.566 square miles. We round this to 0.5 square miles, reasoning that it's beginning to get a little tight, having been in service for a while. Mertactor did not charge the SPA for the land.

Determine Hull Sizes

Every highport has a hull, of course, and for purposes of SPA-standard construction every downport building is considered to have a hull, too.

A comfortable highport hull will measure 4 displacement tons for each dton of starship handled each week. A very cramped highport could be half that size. Most downports utilize freestanding starport berths, greatly reducing their need for "main buildings" volume. Those that use freestanding berths generally have 2 dtons of terminals per dton of starship served, and can get by with half that. Those that do not use freestanding berths use the highport formula.

Many downports fold all activities under one roof (a grand terminal), but for those that use several buildings, the total volume should add up to roughly the above guideline. Subsurface downports almost exclusively utilize a single, large facility. *Exception:* HAZMAT storage facilities usually are built as stand-alone buildings, which will be well separated (at least 100 yards) from other public areas.

These calculations create need for several varieties of hull size not covered in the table on p. GT151. The following hull sizes can be added to that table, both for the purposes of that book and for creating starships.

All starport hulls will be unstreamlined. (When using this table to create starships, note that ships of this size very rarely are streamlined, either.)

HULL TABLE ADDITIONS

Hull Tonnage	Volume (cf)	Hull Area	TL10 Mass	TL12 Mass	Hull Cost (in MCr)	Size Modifier
60,000	30,000,000	580,000	580	290	29/69.6	+13
70,000	35,000,000	640,000	640	320	32/76.8	+14
80,000	40,000,000	700,000	700	350	35/84	+14
90,000	45,000,000	760,000	760	380	38/91.2	+14
110,000	55,000,000	870,000	870	435	43.5/104.4	+14
120,000	60,000,000	920,000	920	460	46/110.4	+14
130,000	65,000,000	970,000	970	485	48.5/116.4	+14
140,000	70,000,000	1,020,000	1,020	510	51/122.4	+14
150,000	75,000,000	1,070,000	1,070	535	53.5/128.4	+14
175,000	87,500,000	1,180,000	1,180	590	59/141.6	+14
200,000	100,000,000	1,290,000	1,290	645	64.5/154.8	+14
250,000	125,000,000	1,500,000	1,500	750	75/180	+14
300,000	150,000,000	1,690,000	1,690	845	84.5/202.8	+15
400,000	200,000,000	2,050,000	2,050	1,025	102.5/246	+15
500,000	250,000,000	2,380,000	2,380	1,190	119/285.6	+15
750,000	375,000,000	3,120,000	3,120	1,560	156/374.4	+15
1,000,000	500,000,000	3,780,000	3,780	1,890	378/907.2	+16
1,250,000	625,000,000	4,390,000	4,390	2,195	219.5/526.8	+16
1,500,000	750,000,000	4,950,000	4,950	2,475	247.5/594	+16
1,750,000	875,000,000	5,490,000	5,490	2,745	274.5/658.8	+16
2,000,000	1,000,000,000	6,000,000	6,000	3,000	300/720	+16
3,000,000	1,500,000,000	7,860,000	7,860	3,930	393/943.2	+17

Highport Example: With a weekly traffic of 185,000 displacement tons of shipping, Mertactor's highport ideally should have a 740,000-dton hull. We decide its age is showing and purposely purchase a cramped 500,000-dton hull for MCr119.

Downport Example: We decide Mertactor's downport will use freestanding berths, so it ideally should have 56,600 dtons in buildings given its 28,300 dtons of starship traffic. We keep going with the cramped, outdated starport concept, and decided it will feature a main passenger terminal of 20,000 tons (MCR14 per p. GT151), and a central cargo terminal of 20,000 tons (another MCR14). It handles no regular HAZMAT traffic, so requires no special warehouse for hazardous cargo.



Downports require surface improvements such as access roads and a few parking lots, but these can be assumed to be part of the cost paid for its buildings' "hulls." The reasoning is that since surface construction should be cheaper than hull construction (there's no need to brace the structure for maneuver stresses, for starters, and much cheaper non-metallic materials may be used), the difference can simply be allotted to this uniquely downport need.

Covered within this "free" development, most SPA downports will be attached to the local transportation network, whether that's roads, monorails, grav air corridors, or some combination of elements. Usually, only SPA personnel will be able to drive or pilot personal vehicles across the XT line; others will need to use mass-

transit to reach the port, or park at a commercial offsite lot, then cross the XT line on foot before using whatever mass transit the GM desires (usually slidewalks) to reach the passenger terminal if it's set back from the line. Cargo handling varies; usually port tenants can enter and exit the port with their own goods (still subject to customs inspection), while others will have to pay SPA freight handlers to bring the goods to the customs station just inside the XT line, then load it themselves once past customs.

Calculate Excavation Fees

Subsurface downports will require an additional expense for excavation. Add Cr25 per displacement ton to bury a downport in soil, or Cr100 to place it in rock.

Example: Mertactor has no excavation expenses, but had we buried its downport buildings we would have spent MCR1 to excavate sufficient soil or MCR4 in rock. Of course, had we really decided upon a subsurface downport, one large building without freestanding berths may have been a better choice. This would have at least doubled our size needs, with a proportional increase in excavation costs.

Build the XT Line

All Imperial downports must have an XT line. The first step in building the line is determining the downport's perimeter wall size. Calculate this as 211,200 sf times (the square root of the downport site size in square miles). Then divide by local gravity in gees, if local gravity is known.

Low-Tech Starports

No matter how small, Imperial Starports are at least TL10, and often TL12. Other sorts of ports (see sidebar, p. 65, for examples) may be of much lower TL, particularly local spaceports that can't depend on Imperial support.

TL0-1

Offers unpaved "pads" only, with bonfire beacons. Fuel supply, if any, is a nearby water source. Hardly a true port.

TL2-3

Primitive radar reflectors add passive astrogational aid. Buildings of wood or stone - including unroofed small or standard berths, perhaps even a large berth - may be present, though rarely of large size. If need be, water for fuel can be carried to site via aqueduct, at incredible expense.

TL4

Telescopes and signal mirrors allow (extremely) primitive active traffic control, if the starship captain can interpret the messages. Unroofed large berths more likely. Door-roofed small berths feasible. Salt domes might allow storage of *uncompressed* hydrogen, though rarely.

TL5

Rotating searchlights and landing lights added to traffic control. First steel frames allow larger buildings, though vast terminals remain rare.

TL6

Radio (including radio astrogational beacons) and radar greatly improve traffic control. Buildings can be sized to meet most needs. Berths of all sizes can have door-roofs. Proper unrefined (or even refined) fuel can be stored, at great expense.

TL7

First highports feasible, if unlikely. Lasercomm, datalinks, IFF transponders, and GPS satellite nets allow first "real" traffic-control systems. Fuel storage no longer a technical or fiscal challenge.

TL8

PESA and AESA suites further advance traffic control. Highports built where essential, though logistics a challenge.

TL9

Highports built on need. Radscanners improve internal security. Most downports meet own needs with on-site power plants.

TL10+

Per this design system, with variations as suggested in various sidebars in this chapter.

Critical Locations

A "critical" area is any facility whose loss would severely impair or paralyze the port's functioning: power generation, central communications, Security control, the tower, etc.

Critical locations often are better protected than other parts of the port. Designers attempt to place them so that an accident at one will not endanger another. If terrorist or military attack is considered likely, the preferred strategy to dispersal may become concentration, since a single small perimeter is easier to guard than several separate ones. (This is known as "redoubt design.") However, physical hazards call for isolation; one does not put fuel storage next to the datacomm center.

Budget Items

Game Masters won't want to design every starport that enters their campaigns, even if that starport's construction budget comes into game play. In addition, budget practices parse expenses differently than this design process - architectural fees are broken out rather than assumed in the overall facility cost, for instance.

Should an adventure deal with a starport's construction budget, here are the line items typically associated with such a project, and their usual percentage of the overall funds available:

Standard Construction Expenses

Land* and highport hulls	25%
Administration offices	0.5%
Traffic control/navigational aids	0.5%
Berthing and ship-service facilities	10%
Shipyards	15%
Non-berth landing pads, taxi ways	1%
Fuel tankage	10%
Warehousing	3%
Terminals**	2%
Port vehicles (internal transport, crash/fire/rescue, security)	2%
Port craft (shuttles, cutters, lighters)	7%
Plant maintenance, infrastructure, and perimeter fence	2%
Technical specialists (architects, etc.)	7%
General conditions (overhead)	15%

* When land must be purchased. Highports generally pay nothing for orbital "space," though some worlds may ask for a payment.

** Combined figure for passenger and cargo facilities.

† For a "standard" XT line fence on a friendly or neutral world. Enhanced security or an opposed-world barrier with guard towers and alarm systems may take up a larger percentage of the budget. In such cases, some of the funds allocated to other areas will be transferred to this one.

Example: Mertactor downport occupies 0.5 square miles. The square root of this is 0.707. Multiplying by 211,200 gives us 149,318 sf. We don't know the local gravity, but GURPS Traveller: Behind the Claw tells us it's a small world (1,927-mile diameter) and pp. T:FI57-58 let us calculate that local gravity's probably about 0.2 Gs! Our wall will mushroom to $149,318/0.2$, or 746,590 sf.

The XT line wall costs Cr10 per square foot; it's DR 40 at TL10 or DR 100 at TL12. Multiply the cost by 0.2 if the local CR is 0, 1 for local CR 1, 1.2 for CR 2, 1.3 for CR 3, 2.9 for CR 4, 3.5 for CR 5, or 5 for CR 6. This represents the cost of adding sensors, traps, and double walls as appropriate. At CR0 it represents an "open frame" wall akin to a wire fence, through which line of sight (and small items . . .) can freely pass. See the sidebar on pp. 72-73 for more detailed information.

Example: The base cost of Mertactor's XT wall is Cr7,465,900, or MCr7.47. The local CR is 1, so that's the final cost as well.

Should the downport be one of those rare few on which the local Startown straddles the XT line, halve the physical expenses for the XT line (the line becomes more of a formality, with few actual walls and gatehouses), and at least double the minimum number of security and Customs personnel normally needed (see p. 87).

STEP 5 - ADD STARPORT COMPONENTS

Now that the basic hulls have been purchased, they will be filled with the required components. Keeping track of the mass of downport components isn't required.

Turrets and Bays

For good or ill, most SPA Starports are unarmed. They depend on the planetary navy, the planetary army (particularly the Close Orbit and Airspace Control Command), and the Imperial Navy to provide whatever protection is required. Imperial naval bases will have their own defenses, however, and these usually extend to cover any nearby civilian starport.

In the event that a port needs to be equipped with its own armament, as sometimes happens in isolated or border areas or on Opposed worlds (where such weapons usually will be added *very* discreetly), the turrets and bays from pp. GT151-158 can be purchased and weapons installed. For downports, hardpoints are constructed out of reinforced concrete, but the price is the same.

Highports often need the space that would be allotted to turrets and bays for external cradles (see p. 103), anyway. A downport can simply add small buildings dedicated to housing weapons. Rarely will actual turrets or bays be added to a downport terminal.

Example: Mertactor has no weapons installed at either port.

Armor

Starports usually are armored. This deters terrorist attacks, offers some protection from star pilots with better confidence than judgment, and keeps the random mishap from becoming a tragedy and Imperial incident. Generally, minimum DR will be 100, but it can reach much higher figures for Starports at the edges of Imperial space.

Armor is purchased normally per p. GT152.

Highport Example: Mertactor is situated in a particularly dangerous portion of Imperial space, though not right at the laserburned edge. We decide to give the highport a DR of 300. This armor masses 35,700 tons and costs MCr428.4.

Downport Example: Armor isn't as important on the surface installations, since the primary threats to security on this world would manifest as hostile starship fleets. We decide to give the passenger terminal DR 200, at a cost of MCr33.6, and the cargo terminal DR 100 at a cost of MCr16.8.

Other Surface Features

Sealing: Almost all installations should be sealed, just in case. This is purchased normally per p. GT152.

Highport Example: Sealing the highport's hull costs MCr23.8.

Downport Example: Sealing each of the downport's buildings costs MCr2.8.

Sensor Masking: Starports very rarely incorporate these options, although theoretically a highport in dangerous space with its own maneuver drives could benefit from being able to sneak out of orbit in times of war. In practice, this would be nigh impossible to accomplish - the port would never be unobserved long enough to break free of visual tracking. Cloaking devices for downport installations would verge on the silly.

Bridges

Highports have bridges proper; downport buildings generally have a control room that serves the same function. These shouldn't be confused with traffic control resources, which will be installed below. These almost always qualify as command bridges at Class II or larger ports.

Highport Example: We install two bridges in Mertactor's highport (one as a backup), requiring 10 spaces with a mass of 41.8 tons and cost of MCr19.2,

Downport Example: The two downport buildings each get a single control room requiring 5 spaces and costing MCr9.6.

Engineering

Each highport or downport building will usually have at least one engineering module. Any given structure could have more than one such module, representing two or more reactors providing power requirements. The "slices" of fusion plant that will be added on to these with additional modules can be judged to be divided evenly between them, or unevenly distributed. This backup system does not mean that, should one reactor fail, the other reactors can make up for the lost power generation. But a highport with two engineering modules (and thus two reactors) could survive failure of one reactor indefinitely by shutting down non-critical power consumption to the point that the remaining reactor can meet demand.

SPA policy is to provide onsite power generation at each major downport building. Minor buildings can draw power from a major building through underground power lines. (This can create some minor *GURPS Traveller* design-system breakdowns. For instance, one of the aforementioned downport weapons bunkers might incorporate a laser that the GM intends to draw power from the main terminal. The problem is that the additional reactor components required to provide the laser's energy will be installed in the bunker with the weapon, not in the site housing the reactor to which they belong. GMs who won't be happy with this misallocation of resources can consult *GURPS Vehicles* and shift the appropriate power-plant components back to the proper building. For others, the effect will be minor and can be safely ignored.)

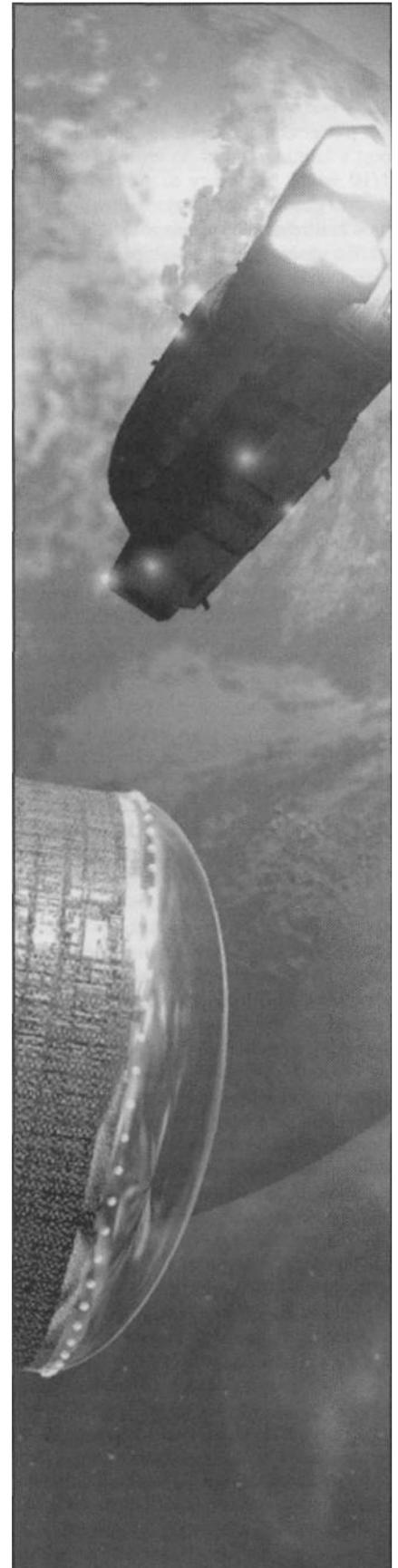
Downports can be assumed to be hooked up to the local power grid, as well. Most Imperial downports use their own power-generation resources, turning to the local supply only at times of reactor failure.

Highport Example: We install two engineering modules in the highport, representing two fusion reactors. These take up 2 spaces, mass 8 tons, and cost MCr0.64. We decide that the reactors will be of equal size, each providing half of the highports energy needs.

Downport Example: The two downport buildings each require a single engineering module, taking up 1 space in each building and costing MCr0.32 each.

Traffic Control

Each highport or downport requires 1 traffic-control module (see p. 104) per 25,000 displacement tons of weekly traffic, rounded up. A port can get by with fewer modules, representing the traditional overworked and harried traffic-control staff, at -1 to related skill rolls per missing module. Ports pay 3 times the list cost for traffic-control modules; the other 400% investment pays for navigation satellites, landing beacons, etc.



Standard Orbits

A standard orbit is defined as a circular orbit from west to east (*prograde*), with an inclination to the planet equator equal to the main starport's latitude and at an altitude between 1/10 and 1 planetary diameter. Traffic control authorities (if any) will assign altitude and relative position to best maintain traffic separation. Even ships proceeding directly to the surface will intercept a standard orbit to begin their descent.

This convention is a remnant from the days when starships used reaction engines, and the extra velocity gained from operating in the direction of planetary rotation resulted in important cost savings.

Other, non-standard orbits are possible and may be requested when filing a flight plan. Polar orbits, with an inclination near 90 degrees, are useful for mapping because they cover more of the planet's surface. Retrograde (east to west) orbits are sometimes useful for maintaining more frequent (but brief) contact with parties on the surface.

Leaving the Port - The XTLine

The border between the Imperial extrality zone and the rest of the host planet is called the extrality or XT line. XT lines are usually designed to prevent smuggling contraband goods onto the planet, in defiance of local customs laws. On particularly repressive worlds, the planetary side of the line may be designed instead to keep the inhabitants in - a 57th-century Berlin Wall.

The XT line can be divided into two sections. First are the actual *access points*, where traffic (ground or grav) can move from one side to the other. Air, water, and space traffic will generally be met by customs officials where it lands, but security arrangements and level of scrutiny will be similar.

The rest of the XT line is called the "*fence*," whatever its physical arrangement. Physical security measures will be similar to, but less strenuous than, those at the crossing points. Sensors will concentrate on area coverage to detect and locate a breach. At a minimum, there will usually be a literal fence or other physical barrier, even on planets with CR 0 - it prevents the inhabitants from wandering into the starport by accident.

Continued on next page...

Highport Example: The highport needs 8 traffic-control modules, taking up 32 spaces, massing 59.2 tons, and costing $8 \times 3 \times 72.66$ or MCr303.84.

Downport Example: We decide to give the downport only 1 traffic-control module, as a character flaw, giving its traffic controllers a -1 to any skill rolls. This takes up 4 spaces and costs 3×72.66 or MCr37.98.

Holds

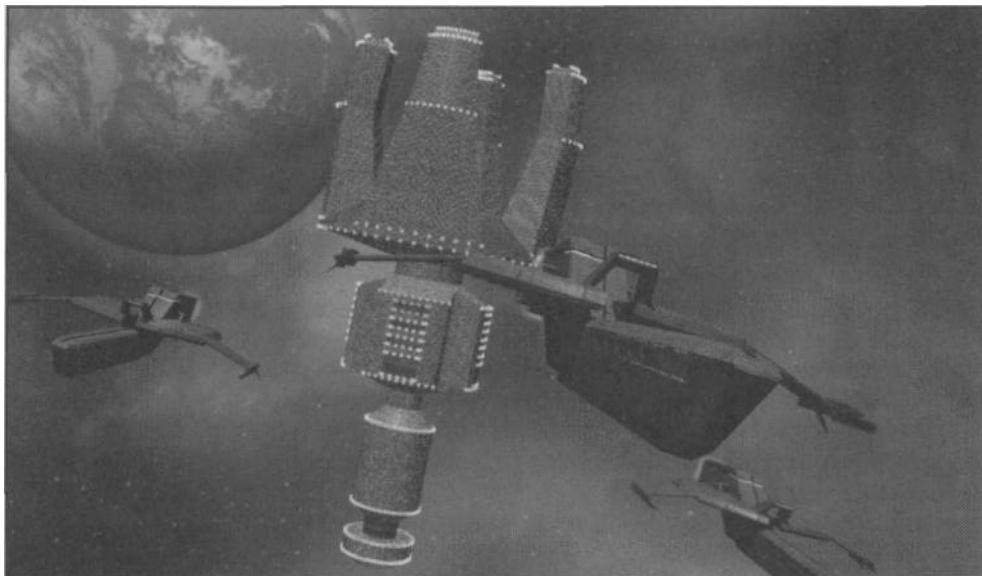
A large proportion of any port facility will consist of storerooms, warehouses, loading docks, transit sheds - holds, in starship terms. HAZMAT warehouses will be mostly holds, usually with just 4 or 8 spaces left over for offices.

The average downport with freestanding berths should have hold spaces equivalent to 0.5 times weekly cargo handled. The average highport, or downport with berths in the main building, should have hold spaces equal to 0.5 times weekly cargo handled *plus* 0.5 times weekly starship displacement tons served.

Ports off the beaten path may want to increase this percentage, to reflect increased turnover times. Assume the average cargo hold will mass 1 ton at any time (most of them will be empty at any given time, since much of this space actually goes to wharfs and similar cargo-handling rather than -storage needs).

Highport Example: *Mertactor* is on a main trade route, so goods don't sit on its docks long. The highport needs $(0.5 \times 96,000 \text{ dtons of cargo}) + (0.5 \times 185,000 \text{ dtons of starship})$ or 140,500 displacement tons of holds, taking up 140,500 spaces and massing on average 140,500 tons.

Downport Example: The downport requires $0.5 \times 40,000 \text{ dtons of hold}$, taking up 20,000 spaces. We decide that 75% (15,000 spaces) will go in the cargo terminal, with the rest representing luggage and parcel service in the passenger terminal.



Jump Fuel

Fuel tankage is an important component of Starports, since refueling starships is a primary service. The average port should incorporate tankage at least equal to 0.06 times the weekly displacement tonnage of starship served. This will average a three-day supply. Ports in remote locals or with fragile supply lines may need to *greatly* increase this tankage. Military or scout ports always store more fuel than this.

Highports hold fuel stores within their hull, but most downports bury the tankage on a remote corner of their site (preferably in rock), then pump the fuel to individual berths through a system of underground pipes (paid for in the infrastructure improvements assumed in their hull costs). For this reason, fuel-tankage spaces aren't counted against downport structures. Downports also use heavier, cheaper tanks, but given the costs of excavation end up paying the standard costs for tankage given on p. GT155.

Underground tanks are easier to insulate and contain leakage better (though a large escape of liquid hydrogen will create a major frost heave, compounding the problem). Aboveground tanks, suitable for small ports and temporary installations, cost MCr0.05 less per module.

At most minor ports, vessels must be moved to a specified fueling bay.

Class I ports will only have unrefined fuel, if that. Class II rarely offer refined, but rarely lack any fuel at all. Class III and IV ports routinely offer both refined and unrefined fuels, while Class V ports often do not offer to sell unrefined stores. See p. GT121 for more information.

Worlds with very hostile environments require special consideration when it comes to fuel storage of fuel. The GM may increase tankage expense accordingly.

Highport Example: *We decide that Mertactor's highport should incorporate more fuel tankage than normal, to serve as a small strategic reserve for Imperial forces in times of border tensions. The normal stores would be 0.06x185,000 or 11,100 tons. We double this to 22,200 tons. The filled tanks take up 22,200 spaces, mass 28,860 tons, and cost MCr3,552.*

Downport Example: *The downport needs to support 28,300 dtons of shipping, therefore we purchase 0.06 x 28,300 or 1,698 tons of tankage at a cost of MCr271.68.*

Fuel Processors

Major ports almost always take in unrefined fuel and process it themselves, as do minor ports when they offer refined fuel at all. Working full time, a fuel-processing module will refine the average fuel needs of 9,000 dtons of weekly shipping. Most SPA Starports will boast processing sufficient to sell refined fuel to all visitors.

Downport fuel processors generally are placed underground, close to the fuel depot. Excavation costs and certain environmental concerns that starships and highports can ignore raise the per-module cost to MCr1.

Highport Example: *With 185,000 dtons of weekly traffic, the highport needs 21 fuel processors, taking up 21 spaces, massing 23.1 tons, and costing MCr17.85.*

Downport Example: *Limiting our investment to 3 fuel processors will still provide refined fuel for $(3 \times 9,000) = 27,000 / 28,300$, or 95% of weekly traffic. Since that's probably a far higher percentage than will be seeking refined fuel, we decide that's enough and invest the required MCr3.*

Fuel Collection

On water-rich worlds, Starports can simply tap into local resources and ferry up the highport's needs. On worlds with restrictions on using water for fuel (usually any with a hydrographic percentage of 40% or less), "oilers" (small craft or non-starships dedicated to carrying fuel) will have to be purchased to mine local gas giants. Some of these will need to be able to transport fuel to the downport.

If neither source is available, liquid hydrogen may have to be imported from a nearby system, which will add Cr400 per dton to its cost! (The GM should note that a system with no fuel source would not be likely to generate enough trade to warrant a large starport; he should rule that *some* source exists if the system has a major port.) Oilers for downport service will be needed.

Imperial Starports generally use the 800-dton oiler from p. T:FT137 to shuttle fuel between highport and downport. Each MCr113.7 oiler can shuttle enough fuel to service 125,000 dtons of weekly traffic. Each requires a crew of five, 25 for full-time service. The 40-dton fuel skimmer (p. GT140) serving 3,000 dtons or a 50-dton modular cutter with fuel skimmer (p. GT142) serving 4,500 dtons can be substituted for lesser needs.

Gas-giant mining varies widely depending on proximity (if the system's main world orbits a gas giant, the 800-dton oilers can be used). For longer trips, robotic "fuel blimps" (non-starships up to 10,000 dtons with no hull armor) are deployed. The GM should simply assign a small-craft cost of MCr0.001 to MCr1 (averaging MCr0.01) per dton of total weekly starship traffic, depending on how difficult the process is and lengthy the round trip. The blimps will require no crew, but will require highport-based technicians.

Leaving the Port - The XT Line

[Continued]

Physical security and strength will increase with both the TL and the CR of the host planet. Height of barriers will be at least 10' divided by local gravity; planets with extensive air traffic will rely more on sensors (and in extreme cases anti-aircraft weapons) to enforce XT line restrictions.

The design sequence on p. 69 merely provides an abstract cost for erecting the XT line's physical features. When the XT line comes into play, the GM can get a better idea of just what it incorporates using the following tables:

Physical Security Measures

CR	XT Fence	Access Points
0	Single fence	Open gate
1	Single fence	Gate with gatehouse
2	Cleared buffer zone	Guards
3	Anti-intrusion fence	Random ID/manifest checks
4	Double fence; sensors	100% ID/manifest checks
5	Non-lethal traps; patrols	Random search
6	Lethal traps; deadly force	100% physical search

Higher level measures may be added during times of heightened alert.

Physical Security Technology

TL	Sensors	Barrier DR/HP
0-4	Mk. 1 eyeball; unaugmented hearing	4/10
5	Searchlights.	8/20
6	Radar; metal detector, microphone, rad counter	12/30
7	LLTV, thermograph, X-ray, geophone, MAD	16/40
8	PESA, AESA, chemsniffer	24/60
9-10	Radscanner	40/100
11	Densitometer, biosniffer	60/150
12	Neural activity sensor	100/250

Casinos

Gambling presents a special set of opportunities and problems for port administration. *The plus side:* Gambling is a profitable business with an unusually low overhead - you provide the opportunity, and the customers give you their money. *The downside:* Casinos handle a great deal of cash (more often than any other part of the port, including the banks). They attract cheats, thieves, and compulsive gamblers. (Casino management has no reason to discourage the last category until they are broke - at which point they become the port's problem, not the casino's.)

An additional factor is that if people are not given a place to gamble legally, they will find their own places to do it. Because casinos operate within regulations, and have licenses they do not wish to lose, many gamblers believe they are less likely to be cheated at a professional table than in a hotel-room pickup game. When a dispute does arise, the "formal" atmosphere, as well as the presence of casino and port security, means it is less likely to turn violent.

The port director has the final decision on whether to allow casino gambling. Only about 5% of major ports do not, and half of those ban casinos at the request of a nearby military base.

All Imperial starport casinos are concession operations. Locals run some, especially at smaller ports. Three-quarters of the casinos at major ports are operated by large gaming corporations, such as Provace, Firenze Ltd., and Schwarzbuch Recreations, LIC.

In the interest of respecting local laws, residents of worlds where gambling is forbidden are not permitted to own portside casinos. (The SPA cannot prevent them locals from gambling in them, though the casino operator may.) From time to time this rule is challenged, either directly as a matter of free trade law, or secretly, through offworld holding companies. The former case is routinely passed back by the line office to the local government, which may issue or deny a waiver (or change the law) as it sees fit. The second case requires a determination of whether Imperial securities law (which forbids false declarations of ownership) has been violated.

Example: Mertactor has a 19% Hydrographic percentage, so the water's probably off-limits to the Imperial port, and the system has no gas giants! (See p. T:FT131.) We decide that a nearby non-terrestrial world has significant hydrogen in its stew of an atmosphere (since we do have a major port serving the system). Total weekly traffic is $185,000 + 28,300 = 213,300$ dtons. We assign a fuel-blimp cost of MCr0.005 per dton for a total expense of MCr1,066.5. We also need to shuttle fuel for 28,300 dtons of shipping to the surface. Though an 800-dton oiler costs more than the seven modular cutters that could also do the job, far fewer crew members (35 vs. 105) will be required and the excess capacity may prove handy in an emergency, so we purchase the oiler for MCr113.7.

Berths/Spacedock Hangars

The single most core component of a starport is its ability to house starships and small craft, therefore a large percentage of its volume will be taken up with spacedock hangars (called berths at a starport).

The average port will have berth space to hold its weekly average traffic, or a little more. Since the average starship remains in port three days, this amounts to more than 200% of average need. There are several reasons for the extra capacity. First, some weeks will see far more traffic than the average. Second, star traffic does not arrive in smooth ratios of small, medium, and large ships; some weeks will see many small ships and others will see a surge of 20,000-dton liners. Third, the port's own small craft and private small craft will be using the smaller berths as available.

The SPA builds berths with capacities of 100, 800, 5,000, or 20,000 dtons. Vessels larger than 5,000 dtons usually call strictly at the highport. Using these standard designs boasts all the advantages of standard configuration (pp. 56-57): No custom design study is necessary, the supplies for a berth are available as a prepackaged "kit" (containing surfacing and wall materials, lighting, landing-beacon components, and wiring), and landing procedures for a specific berth size are also standardized.

The following is the standard SPA formula for determining how many berths of a given size that a given highport or downport needs. They are based on weekly displacement tons served. In certain cases (for instance, a core world that sees a higher proportion of 20,000-dton freighters than the norm, or a frontier world that rarely sees a commercial ship exceeding 800 dtons), this formula should be heavily modified.

BERTHS PER 100,000 TONS SERVED

1	20,000-ton (extra large)	Downports substitute four large berths for each extra-large berth. Use these ratios to nearest 100,000 dtons. For remaining fraction of 100,000, assign berths as evenly as possible.
6	5,000-ton (large)	
40	800-ton (standard)	
180	100-ton (small)	

Highport Example: We decide that since it serves 185,000 displacement tons, Mertactor's highport needs 2 20,000-ton berths, 11 5,000-ton berths, 70 800-ton berths, and 340 100-ton berths.

Downport Example: The downport serves 28,300 displacement tons weekly. At 10 large berths (using the extra-large berth substitution) per 100,000 dtons served, that works out to about 3 large berths needed. We go with that, adding 11 standard berths and 45 small berths to fill out our needs.

Highports purchase standard spacedock hangars per p. GT154. Not all of them offer true berths for all of the ships they serve. Instead, they berth many ships in external cradles (see p. 103) or orbital berths (see below).

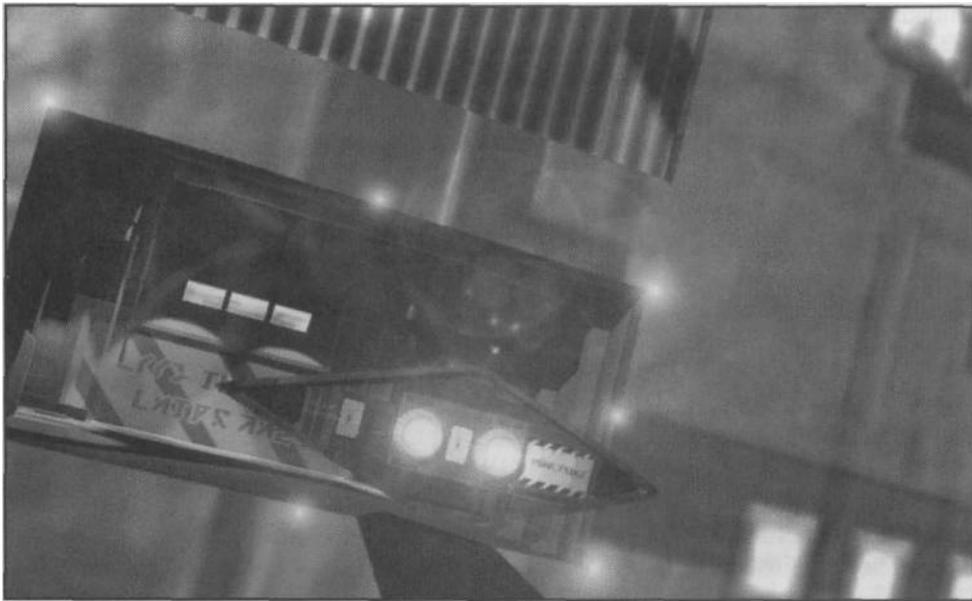
External cradles are preferred over simple airlock-to-airlock connections because the SPA doesn't like to leave large ships "floating" next to their highport hulls. By employing cradles for all external berths, the highport can undergo emergency maneuvers (whether via tug or its own maneuver drives) with minimal notice. Likewise, starship pilots can't attempt unwise close maneuver until traffic control releases their ship from its cradle. Still, many undercapitalized highports resort to airlock-to-airlock external berths if they lack both unfilled cradles or spacedocks, and the transfer craft required to support an orbital berth.

The SPA installs large external cradles to roughly match its standard berth capacities. These have the following characteristics:

CRADLE/BERTH EQUIVALENTS

Size	Spaces	Mass	Capacity (stons)	Cost (MCr)
Small	3(1)	37.5	375	0.75
Standard	30(10)	375	3,750	7.5
Large	160 (54)	2,000	20,000	40
X-Large	700 (234)	8,750	87,500	175

Spaces are the number of spaces within the port's hull that the external cradle takes up; most of the cradle is outside the ship's hull. The number in parentheses indicates the number of turrets that can't be installed because the cradle supplants them. *Mass* is the mass of the cradle itself, while *capacity* is the heaviest ship the cradle can hold, as measured in standard tons. Any given cradle can hold any ship lighter than its limit.



The SPA tries to avoid relying on orbital berths, in which the incoming ship is parked in an orbit adjacent to the highport and business is conducted via small craft and lighters. This system increases navigational woes, and small craft are more expensive in the long run than cradles or berths. Regardless, many older highports have seen traffic increase to the point where orbital berths are their only option. Each orbital berth requires the highport to add additional small craft to its transfer-craft fleet to meet the following needs:

ORBITAL BERTH TRANSFER CRAFT NEEDS

Size	Passenger Couches	Cargo Holds
Small	1	1
Standard	3	7
Large	30	75
X-Large	120	300

These figures assume that the transfer craft will simply be added to the pool established on pp. 63-64, and all crafts will serve both normal transfer and orbital-berth needs.

Highport Example: *Our highport hull is a little small for our needs, so we decide to purchase half of our berths as internal spacedocks, half as external cradles. Purchasing 1 extra-large, 6 large, 35 standard, and 170 small internal berths takes up 190,000 spaces, with a mass of 212 tons and cost of MCr 1.06. Adding 1 extra-large, 5 large, 35 standard, and 170 small external cradles takes up 3,060 spaces, masses 38,250 tons, and costs MCr 765. The cradles take up the hull space that 1,024 turrets normally would; since the highport could wield 5,000 turrets (were we to arm it), this suggests that cradles cover roughly 20% of its surface.*

Public Data/Comm

Imperial Starports usually provide (for a small fee) public terminals that tap into the local communication networks. These terminals are typically computers of varying degrees of sophistication. On more primitive worlds, they may be old-fashioned telephones or videophones.

All public communications use their own lines, distinct from those of the starport's internal systems. While information about the starport and its functions is obtainable using these terminals, one cannot directly access any information stored there.

Chapels

Most major ports have at least two religious facilities, known generically as "chapels." One of these is nondenominational, a plain, quiet room where anyone may rest and meditate. The other has a collection of iconic objects and holographic projections representing many faiths, which can be set up, with a couple of hours' notice, to house a particular faith's services.

These two rooms, which typically seat 50-100 persons each, are provided and maintained by the SPA. They are not staffed, though large ports usually have a number of religious officials (minister, priest, rabbi, etc.) available via pager.

Religious organizations are permitted to lease space for dedicated chapels. The rents may, at the director's discretion, be discounted, since it is assumed that the chapel is not a profit-earning enterprise; however, this cheap space will not usually be in a prime commercial area. Leased chapels usually have a minister on duty part of the time.

The port chapel is thought of differently from the other public spaces. Quiet is maintained, and it is considered very bad manners to openly wear weapons inside (there are some fringe world sects that incorporate weapons in their observances, but even these observe the niceties when sharing space with others). It is also bad form to talk about anything non-spiritual, and that especially means conversations with shady contacts.

A chapel is not considered a "sanctuary" in the sense that lawbreakers can take refuge from pursuit. Security will remove such a fugitive with whatever force is necessary. A fugitive who wishes to surrender may choose the chapel to do so peacefully. When there's a serious shooting situation in the corridors, one way of declaring your non-involvement is to take a seat in chapel; the central tenet (i.e., not being shot) is very ecumenical. At the conclusion of the incident outside, enterprising deacons often stand by the exit holding a collection basket; people become surprisingly generous.

People's tendency to congregate in the chapels in emergencies leads some directors to install special safety features such as additional fireproofing or heavier walls.

Traffic Control

Traffic control at Imperial Starports usually isn't a hectic, seat-of-the-pants process. Usually.

Traffic control's main tower will be located at the highport (if present), but every downport will also have its own "local" traffic-control tower. The highport tower (which usually is a towerlike extension of the highport's hull, but for security reasons sometimes isn't) has command authority over the downport towers, and senior officials usually will be based at the highport. Their offices usually will be adjacent to the traffic-control centers, often at the base of the tower.

Traffic control is always isolated from other port functions, for reasons of security and to ensure no interruption of its dedicated infrastructure needs (it wouldn't do if a janitor's vacuum cleaner blew a fuse that knocked out the main radar). Public access is always restricted. In addition to failsafe power supplies, traffic control will require a deal of communications equipment, both for speaking to traffic and for receiving data from its network of navigational-aid satellites. This often is located at the traffic-control tower, but also can be elsewhere on port property with a dedicated physical datalink to the tower proper.

Traffic Control Protocol

Imperial Starports use a standard system for controlling flight space, depending on port class. All of Imperial space uses a single radio channel for flight control (with two backups for occasions when the main channel suffers interference). Ships arriving in a system administered by the SPA are expected to notify the starport at earliest opportunity. The port will then instruct the starship on any local variances from the standard control system; this data also can be obtained in commercial navigation software or a pilot with the appropriate Area Knowledge may already possess it. Class III or higher ports usually then assign the ship to a different traffic-control frequency, to keep the main channel relatively free of clutter.

Each starport provides the traffic control described for its class and all below it.

Class I: These Starports usually possess minimal or no traffic-control sensors, and may not possess any full-time traffic-control personnel. All that they must maintain is an *advisory zone*. This zone usually extends from the planet's surface to 100 AU from the primary star or the orbit of the last charted planet in the system (whichever is greater). Starships maneuvering within this space are supposed to notify the port of their flight data.

The port will try to relay this information to any traffic with obviously converging courses. An advisory zone is considered uncontrolled space.

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Usually, downport main buildings only house a few small berths, for small craft performing transfer duties. At most SPA downports, each starship berth is a free-standing, paved area with a wall around it (for customs and inventory control). The landing starship drops right into the berth, and flies straight up and out when its business is done. These berths usually are located a prudent distance from any main buildings, an equally prudent distance from the XT line, and as far apart from each other as feasible. They generally ring the downport's main building(s), with the usual exception of a corridor that will be left clear for ground traffic.

A standard SPA downport starship berth has two doors in the wall, a small one for personnel and a large one for grav/ground vehicles. Generally, both doors remain locked until customs has cleared the vessel, at which time the starship captain is given control of both portals until his ship departs.

These berths are sufficiently large that the unused space within their walls can be used as a transit shed and staging area for offloading, sorting, and onloading cargo. Many feature retractable roofs that can completely enclose the berth once a ship has landed. Their physical characteristics are:

FREESTANDING STARSHIP BERTHS

Size	Volume (cf)	Diameter [ft]	Cost (MCr)	Size Modifier
Small	150,000	100	1.25/1.51/2.41	+9
Standard	1,200,000	225	4.38/5.26/8.41	+10
Large	7,500,000	450	14.38/17.26/27.61	+12

The first cost is for a basic berth with no roof and DR 25 walls and flooring. The second price is for the same berth with a DR 25 retractable roof. The third figure is for a high-security berth with DR 100 flooring, walls, and retractable ceiling. Berths with roofs can be considered sealed when the roofs and doors are closed.

Most Starports should buy at least 5% of freestanding berths in each category with roofs, to be converted into hangars later in this design process.

Freestanding berths use underground leads from a nearby main building for power (for lighting and doors), water, sanitary sewer, and datalink. They almost always are connected to the fuel storage via underground pipes, so that starships can refuel within them. They are insulated; berths with roofs contain no life-support (unless added at Cr500 per person capacity), but will hold their temperature fairly well with the roof closed, and it will take quite some time to use up the air within one.

In a pinch, each larger berth can be used to house four vehicles that would fit into the next smaller berth. A large berth can house four starships up to 800 tons; a standard berth can fit four 100-dton starships. This is rarely done - any cargo (or personnel . . .) left lying about by an existing tenant could well be damaged during takeoff or landing procedures by another ship sharing the facility.

While freestanding berths are the usual style of downport starship support, they are by no means universal. Some downports feature a "dock tower," basically an immense skyscraper with spacedocks stacked one on top of the other and doors that require ships to enter and exit horizontally. (Build this as a massive passenger terminal, with all of the downports berths purchased as spacedocks in the main building.) The SPA tries to avoid this design (and the dozens of variant but similar concepts), because it makes traffic and hazard control much more difficult, but sometimes must yield to local pressures to build a more aesthetically pleasing and imposing downport facility.

Freestanding, scattered berths make traffic control as simple as it can be, and automatically isolate any flight-related disasters. Their major drawback is that same isolation - passengers and cargo must be moved from the berth to their terminals and back again. Some Imperial downports take care of this by linking each berth to the terminal(s) with large underground slidewalks. Others take the initially simpler route of providing a fleet of grav vehicles for passenger and cargo transfer. Usually, even berths equipped with underground slidewalks have personnel and cargo doors opening onto the surface, for emergencies and special cargo-handling circumstances.

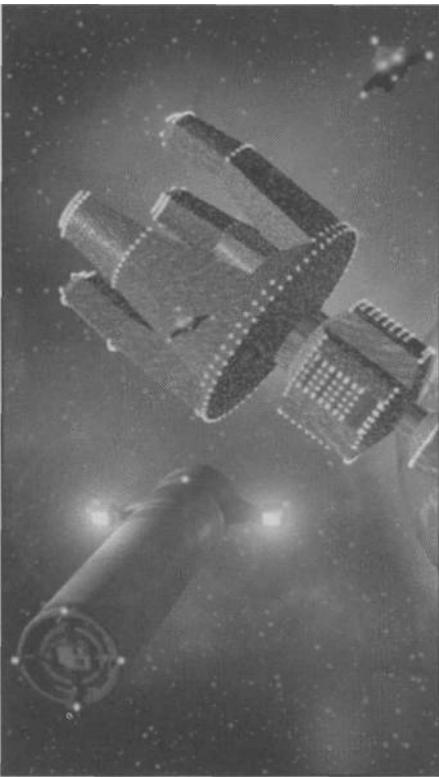
A standard underground slidewalk system uses a 15' by 15' corridor (regardless of the size of berth to which it is attached), with a slidewalk that moves at 2 yards per

Traffic Control

[Continued]

second and that is rugged enough to transport just about anything that could be placed upon it. It costs MCr0.1 per freestanding berth if the downport has 1-12 such berths, MCr0.15 per berth if 13-36 freestanding berths, MCr0.2 if 37-84 berths, MCr0.25 per berth if 85 or more berths. If each berth is to enjoy connections to each of more than one terminal, double the overall system cost for two terminals, triple it for three, etc. More often, a downport with multiple terminals simply connects each terminal with a massive array of slidewalks (costing MCr1 for two terminals, MCr3 for three terminals, MCr6 for four terminals, or MCr10 for five terminals), then connects each freestanding berth to the most convenient of those terminals. Note that the slidewalks will be used only to transport people and small lots of cargo - transfer of large cargo lots is handled by small craft and already figured into the transfer-traffic figures.

Downports with freestanding berths unconnected by slidewalks also use their existing small craft to shuttle large cargo lots, and TL10 utility grav sleds for small lots and people. These sleds carry 12 passengers or 1 displacement ton/5 standard tons of cargo, with statistics comparable to the sled found on p. 74 of *GURPS Traveller Star Mercs*. (The larger cargo vehicles on pp. 100-101 can be substituted if there's enough traffic to justify them.) The standard sleds cost Cr50,000 each, with a crew of one driver (five drivers, total, to keep them in full-time service). The downport will need one per 3,000 displacement tons of starship served to keep people, small cargo lots, and the mail moving.



Custom berths may be constructed, generally at small private facilities where only one specific vessel (such as a noble's yacht) is expected to land; constructing, say, a 200-displacement ton berth can provide enough space savings over a 800-dton standard design as to be worth the trouble. Large berths are also constructed for specific vessels, mostly by the military; the practical limit is still 5,000 dtons. Larger vessels than this can generally call on a downport only by landing on open water.

Design a custom berth as a starship hull with twice the volume of its stated tonnage, or three times the volume if extensive freight handling is foreseen. A berth with a roof requires the MCr0.005 investment for a spacedock door, and is armored just like a starship. A roofless berth avoids the spacedock cost, and multiplies final armor cost by 0.83 (since the top one-sixth will have no armor).

Yet another alternative, at private ports and cash-tight Imperial minor ports, is the landing pad. A pad is nothing more than a paved area with minimal landing lights and a few mooring rings. A small pad costs MCr 0.25, a standard pad MCr0.87, and a large pad MCr2.87.

Starships can be landed on bare ground in a pinch. Except in the most rocky terrain, repeated landings and takeoffs will chew up the ground, rendering it useless for future landings.

Downport Example: We decide that each downport terminal will have 5 small berths, for direct small-craft service. These take up 500 spaces and cost MCr0.025 in each terminal. The remaining 3 large, 11 standard, and 35 small berths will be purchased as freestanding berths with retractable roofs, at a cost of MCr162.49. We decide to use the underground slidewalks for moving people and cargo from berths to terminal. With 49 freestanding berths and two terminals, this costs MCr9.8 to link the berths to a terminal each, and MCr1 to link together the two terminals.

Class II: True traffic control is operating, with full-time staff and short-range sensors, which are usually ground-based unless the port has an orbital element. Traffic-control staff is divided into tower and ground-control operations.

These ports establish a *starport control zone* that covers the physical extent of the starport (on the surface and/or in orbit) and roughly a 10-mile radius around it in all directions other than below-ground.

The tower maintains *positive control* of all flying craft in the control zone. Positive control means that the vessel should not maneuver without instruction from traffic control. (If it does, without a good reason, the pilot will have to answer for it.) Ground control supervises all non-flying craft, from just after landing to just before takeoff.

Class III: Traffic control becomes much more advanced at this level. Staffing increases substantially, and the port operates at least three low-orbit navigational and meteorological satellites. These ports create an *airspace zone* from the planet's surface to 1/10 the planetary diameter above its surface.

The tower maintains *procedural control* within the airspace zone. Procedural control means that "lanes" are established to enter and exit port airspace, and ships with similar vectors line up for approach in these lanes. During procedural control, even if a pilot has excellent reason for maneuvering without instructions from traffic control, he *will* answer for it. The downport tower also provides weather data for surface operations.

Class IV: Staffing becomes even more extensive. The starport will operate satellites in low, medium, and high orbit. The amount of data being processed would make the job impossible for the most experienced human controller without the support of powerful computers and expert programs. These ports create a *transition zone* extending from the upper limit of the airspace zone to 100 planetary diameters. Procedural control is practiced throughout the transition zone. The airspace zone is under positive control.

Class V: This uses more satellites, even more powerful sensors, and the increased personnel and computer hardware to handle the exponentially increased data. Class V ports establish an *orbital zone* from the upper limit of the airspace zone to 10 planetary diameters above the surface; this is *inside* the transition zone but supersedes it. The tower maintains positive control throughout the orbital zone.

Navigational Aids

The Imperial Grand Survey maintains Imperial navigational charts and primary beacons (see p. T:FI10), but the SPA maintains the laws governing civilian star travel and a host of secondary navigational aids.

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Traffic Control

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Most navigational aids are based on satellites, generally called "navsats." Along with a powerful carrier signal, most can transmit verbal messages and respond to orders from their owning agency. Standard navsats include:

Anchor Beacons: These are the navsats maintained by the Imperial Scout Service. Every system with a rated starport will have one to orient starships upon breakout from jumpspace. Their signal incorporates a "time and date stamp," so that starships stranded in interstellar space can more easily fix their position by comparing the relative ages of surrounding anchor-beacon signals.

Terminal Beacons: These are the SPA's bread-and-butter navigational beacons. They often are housed on the same satellites that host the SPA traffic-control sensors.

At a Class I port, the terminal-beacon system consists of a single beacon located on or adjacent to the starport proper. Low tech, non-Imperial worlds may substitute other means of identification for a radio transmitter. This may be the only navigational aid of any kind.

Class II and higher ports will retain the port terminal beacons (one for each highport and groundport). Two additional beacons will be placed in the mainworld's orbit, one 60° ahead of and one 60° behind the main world (its Trojan points). These beacons serve to define the plane of the system's ecliptic and locate the mainworld if it is on the far side of the system's primary.

Additional terminal beacons are possible - for example, in orbit near a gas giant designated for fuel skimming.

Global Positioning System (GPS) Constellation: These small satellites (generally 36 in low orbit, to ensure complete coverage and sufficient redundancy) provide not only position data for users on the ground, but also accurate reference data to ships in orbit.

Marker Beacons: Marker beacons provide backup identification of specific navigational points and hazards. They are smaller and lower-powered than terminal beacons, because the required range is proportionally smaller. Placement varies from system to system, but typical uses include initial-approach fix, outer/middle/inner markers on approach, final-departure fix, holding points, floating hulks in orbit, small planetoids, and restricted space stations. A Class V starport may support thousands of marker beacons in its star system.

Data/Comm

Data/Comm is usually dispersed throughout a starport, using several different and mutually redundant nodes. Even within a single department, no one node is always used, except in the case of traffic control

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Hangars

In starport parlance, a hangar is a berth (almost always of an enclosed nature) with the necessary equipment for major repairs and refitting of the spacecraft that it houses.

For most maintenance performed in berth, the vessel requires more solid support than its own landing gear. Two kinds of external support are employed for this purpose, scaffolding and work cradles.

Scaffolding consists of lightweight but strong modular frames that can quickly be assembled under and around a grounded vessel. Small hydraulics snug them against the hull and raise the ship slightly, so that its weight is mostly or completely off its landing gear and spread around the scaffold frame. Scaffolding makes the ship very stable, and provides easy access to all parts of the hull for maintenance and repair.

Scaffolding can be moved from berth to berth, so in conjunction with a tool cart (see below) can transform any berth into a hangar. (In doing so, ease of cargo handling is strictly curtailed, since the maintenance gear takes up a great deal of space once set up. It's better to take care of offloading cargo before setting up scaffolding, then unload after the scaffolding is removed.)



It requires 15 minutes per 200 displacement tons to set up scaffolding, half that to take it down. The cost of scaffolding a ship is included in the cost of maintenance, or scaffolding may be rented by do-it-yourselfers for Cr20 per 100 displacement tons per day. A ship may carry its own scaffolding, for use either at ports or in the field.

Scaffolding costs MCr0.125 per 100 displacement tons of capacity. Stowed away, it takes up one cargo-hold space (500 cf) and masses 5 standard tons per 100 dtons capacity. In use, it takes up 25,000 cf per 100 dtons capacity (essentially half again the volume of the ship). Most ports keep enough scaffolding around to convert 10% of their internal or freestanding berths (measured by their maximum ship tonnage held) into hangars.

Work cradles are used when structural alterations to the ship are needed - anything that involves cutting or moving a bulkhead, or removal/change of primary components such as power plants or drives. These are analogous to dry docks: hydraulic frames that firmly support all parts of the vessel. They take all stress off the ship's internal structure, allowing bulkheads and load-bearing members to be relocated or temporarily removed for access.

It requires 12 minutes per 200 displacement tons or fraction to properly secure a vessel in a berthing cradle, and twice that time to release it. Its cost is included in the cost of

maintenance that requires a cradle, or starship crews can pay an extra Cr30 per 100 displacement tons per day to rent a hangar instead of a berth. (This is rarely done because they will still need the appropriate tools for such a large job, and renting a hangar doesn't include access to any SPA tools. The starship crew would have to purchase its own.)

Cradles are strictly located inside enclosed berths; they are not portable. Usually they are fitted within 5% of existing berths, spread as evenly among different berth sizes as possible. A cradle-equipped berth becomes a full-time hangar, used strictly for maintenance. (Cargo could be handled in a work-cradle-equipped hangar, but very inefficiently.) Cradles cost MCr0.25, take up 50 spaces, and mass 10 tons per 100 dtons of capacity. In freestanding berths, they simply supplant cargo-handling space.

Normally only Class IV and V ports install work cradles, and the berths so equipped are located adjacent to (and considered part of) the shipyard facilities (see pp. 80-81).

External cradles for berthing starships automatically fulfill the functions of a work cradle, except that the ship's exterior (and interior if hull integrity is not maintained) will be in vacuum. The necessity to wear vacc suits - and employ premium-salary zero-gee workers - for some or all of the job increases repair cost and time by an average 20%.

Highport Example: *Our highport can hold 95,000 displacement tons of ships in its internal berths, so needs scaffolding for 9,500 tons. This takes up 95 hull spaces when stored (and simply expands into the spacedock excess space when in use), masses 855 tons, and costs MCr11.88. The issue of work cradles is trickier, since theoretically the existing external cradles could fill all needs (though less efficiently since they're not sealed against vacuum). We decide to purchase work cradles for 1 large, 1 standard, and 9 small berths. These take up 3,350 spaces, mass 670 tons, and cost MCr16.75.*

Downport Example: *The downport needs scaffolding for 2,830 tons of shipping. This takes up 29 spaces in storage (we assign 28 spaces to the cargo terminal and 1 space to the passenger terminal) and costs MCr3.54. It doesn't appear that enough 5,000-dton ships are seeking major repairs to warrant a dedicated hangar (this makes sense given the capacities of the highport), so we purchase work cradles for 2 standard and 2 small freestanding berths. (This compensates for having no large work cradles by purchasing an extra standard cradle.) These cost MCr4.5.*

ShopCarts

For flexibility, SPA Starports generally store all maintenance and repair tools in "shop carts." A shop cart is a simple grav sled about 15' long by 5' wide. It has a rail about 3' high, custom-fitted to carry one each portable shops for use of the Mechanic, Engineer, Electronics, and Armoury skills. (These are stacked to about 6' high.) The sled has no motive power; it is towed or hand-pushed to wherever it's needed. It operates for 18.75 hours on an E cell. (In practice this will be modestly lower, because technicians can use the cart's E cell to power equipment when convenient.) After unloading their tools, work crews often use the sled to maneuver heavy starship components; its maximum payload is 5.6 tons. (Note that the normal payload is 5.5 tons, meaning only very-light goof-offs can try to ride a loaded shop cart to work. This is an intentional design element. . .)

Note that a shop cart is not a true workshop - it carries the equipment required to transform any 10 cargo or spacedock spaces into a universal workshop. For jobs on external cradles, the carts are taken aboard the "job" ship and space to set up is found there.

Up to three technicians can work with each of the four kits. Jobs requiring more technicians in any of the four categories will require more shop carts.

In addition to tools, shop carts carry small parts such as fasteners and bearings, as well as a data terminal with access to standard ship plans and diagrams. The terminal also is used to order replacement parts from Central Stores.

SPA shop carts are always TL12, even at TL10 ports, to support all customer needs. Loaded with the portable shops, they cost MCr0.03, mass 5.66 tons, and take up 1.5 cargo spaces each.

Class III Starports and above should have at least one shop unit per 2,000 dtons of starship serviced. P/Is have no maintenance, and P/IIs usually have one shop cart and one crew who may or may not be on duty at any time.

Traffic control almost always boasts the best data/comm in a starport, maintains its own node shared with no one, and only switches to other data/comm linkages should its own suffer catastrophic failure.

Navigational Aids: Anchor or terminal beacons have a range of 100 million miles, and require 0.5 dton, 3 ston, and MCr1.3 each. Marker beacons have a range of 50,000 miles each and come in sets of 20, for MCr0.13 (volume and weight are negligible). A complete GPS constellation costs MCr2.6, takes up 0.5 dton and 0.6 ston as cargo, and must be replaced or re-seeded every 40 years (although some worlds have stretched it well beyond a century, with all of the accompanying problems that deferred maintenance causes). These items are generally provided and maintained by the IISS, who are then reimbursed from the SPA construction budget.

RetailSales/Services

All ports of Class III and larger have some kind of retail area, usually operated by concessionaires (see p. 21).

The variety of consumer goods and personal services available at a major starport could take pages to list, without much practical purpose. Adventurers do not need to be impressed by the number of retailers in the shopping concourse; they want to know if the particular item they need is for sale.

General guidelines: At a P/V, or P/IV with significant passenger traffic, any consumer item one would expect to find in a shopping mall should be readily available: clothing, luggage, souvenir goods, and so on. From a GM's standpoint, the only reason to deny a character an item is if its lack affects the story. Unusual or rare items - multi-carat diamonds, Sevruqa caviar - might cost several times their "normal" prices, especially far from the world of origin.

At a minor port, the necessities of life will be available (occasionally at inflated prices), as well as a few luxuries (always at inflated prices, unless they are "white elephants" the retailer simply wants to get rid of). Most Class I ports have no retail sales. If port/local relations are relaxed, shops will be set up just beyond the gate. These will sell travel essentials and the planet's produce, particularly fresh food.

The availability of services, such as barbers/beauticians, luggage repair shops, and financial services, is driven entirely by customer volume. Again, a major port is likely to have everything one would expect to find at a large hotel or shopping center, while small ports might have a starline ticket office, or nothing at all. An exception is Hardlined ports (see p. 43), where service operators can turn a profit on the trade of port employees.

Tools disappear easily. Most Starports store shop carts in main buildings, taking them out to remote freestanding berths only on demand.

Highport Example: The highport requires 93 shop carts, which cost MCr2.79, mass 526.38 tons, and take up 140 cargo spaces. (These cargo holds will be in addition to those designated earlier.)

Downport Example: The downport needs 15 shop carts, of which one will be stored at the passenger terminal and the remainder at the cargo terminal. They cost MCr0.45 and require 2 cargo spaces at the passenger terminal and 21 spaces at the cargo terminal.

Parts, and the Parts That They Play

Starport retail offerings for ship's crews are limited, by necessity. A free trader's crew could end up needing any of a *million* items, and even the largest starport can't be stocked for every contingency.

For star crew who need a particular tool or replacement part, roll against Scrounging skill. If the character is in a shop of some kind, Merchant skill may be used instead. Additional skill rolls, such as Language, may be imposed by the GM as appropriate.

- If the item both is commonplace and would normally be found in this location - a screwdriver in a hardware store - success is automatic *except* that on a critical failure, they've "just sold the last one" (which may lead to a chase after whoever bought it), or the last one on the shelf will turn out, later, to be defective.
- If the item is slightly rare or unlikely - a nonconductive 3/8" Torx driver, or a screwdriver in a grocery - an ordinary success is needed. Both conditions at once put the roll at -2. Critical failure has the same effects as above.
- If the item is exceptionally rare - the *exact* hydraulic door actuator for your 50-year-old scout ship of unknown origin and modifications - a critical success is necessary, and don't even bother rolling if you're not in a service station, or at least a junkyard.

Naturally, the GM may always simply say, "Here it is," or "Nope, nothing like that 'round here." And search rolls should always take into account the *plot function* of the item, by which we don't mean driving screws.

As an example, suppose the party needs to cross a wilderness to continue their adventure, but their ATV has broken down, and they need a new steering linkage to get it going again.

If there's no other way to make the trip, the part is *essential*, and they'll eventually have to be given one, though it could cost a fortune, or require a sub-adventure.

If there's alternate transportation, by horseback or TL10 river sandals, the part is a *convenience*, and the GM may allow a die roll to find one; this is why characters have skills to use, after all.

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The Shipyard

Most major Imperial ports include commercial shipyards. These can build new small craft, non-starships, and/or starships from scratch. They also can supplement the starport's work-cradle-equipped hangars (see pp. 78-79) in serving as depots for major repairs.

Total shipyard capacity in displacement tons usually is equal to weekly trade tonnage divided by 12 at Class IV ports or 8 at Class V ports, then rounded up to the next standard hull size where applicable. Starports sharing a system with a naval base often have double this capacity, or more. The shipyard can produce one vessel at its capacity size per year, or any combination of smaller vessels totaling that tonnage in a year's production. In wartime (or other emergencies), this capacity can be extended by 50% at double standard employment, and used to accommodate military vessels.

Most SPA ports maintain coordinated shipyard facilities at both the downport and highport on host planets of TL10+. The downport specializes in ordering fabrication and parts from local resources, and building smaller ships. The highport orders and distributes any imported parts, and builds the unstreamlined and larger hulls. On lower TL worlds, the shipyard often is concentrated at the highport, since most parts must be imported anyway.

Stocking jump drives is the most costly aspect of shipyard operations. Class IV ports usually do not undertake this expense, and cannot build jump-capable starships.

Non-starship shipyards take up 5 spaces, mass 5 tons, and cost MCr0.2 per dton of capacity. Shipyards capable of producing jump-capable starships take up 6 spaces, mass 6 tons, and cost MCr0.3 per dton of capacity. This includes a spacedock (usually one vast space in which several smaller hulls can be worked on simultaneously if need be), work cradles, and tools. The mass, but not cost, of a proper parts inventory is included. (The cost of parts can be ignored as part of the production cost of goods.)

Since starship construction averages only a 5% profit margin on a rough ship price of MCr0.2 per dton, the average Class V shipyard takes 78 years to truly pay itself off if one anticipates a 3% rate of return on investment. Therefore, few private concerns find themselves attracted to the industry.

Example: *Mertactor starport probably could import many parts from its TL9 host world, thus justifying a downport branch of the shipyard, but we decide to go ahead and place the whole facility in the highport. (Mostly because our theme of old and cramped is filling up our downport buildings more quickly than our highport.) Together, the highport and downport service 213,300 dtons per week, so the shipyard should have a capacity of 17,775 dtons. Going with our theme of being a bit behind the times, we round down to 15,000 dtons, instead of up as would be standard. As a Class IV port, Mertactor will be limited to building small craft and non-starships (perhaps 150 100-dton shuttles per year, perhaps 18 800-dton lighters, or any combination totaling no more than 15,000 dtons). The shipyard takes up 75,000 spaces, masses 75,000 tons, and costs MCr3,000.*

All worlds with sufficient population and TL are capable of constructing space vessels without a dedicated shipyard; production costs and time are doubled.

Runways

A small craft or starship could be loaded past the point where it can perform true vertical takeoffs or landings. This condition would require a runway for landing at or leaving a downport.

The SPA does not place runways on its downports - ships that don't have full control over their motion are considered far too dangerous to be flying about. Overloaded ships that must reach the surface usually have their cargo offloaded in orbit to make them light enough to perform a vertical descent. For extreme cases, the Starport Authority or local government might maintain a runway in a remote area somewhere, since cases this extreme tend to be emergencies and should be isolated. This runway will usually be very long. Given their designs, once a starship requires a runway, it rapidly requires a *lot* of runway!

Low-tech worlds usually have several airports close - but not *too* close - to the Imperial starport, but this traffic will not be allowed to fly over the starport itself.

Downports do usually have taxiways, to control ground traffic of ships that need to switch berths for whatever reason. (For instance, routine maintenance might reveal a bigger problem, requiring a starship switch from a standard berth to a fully outfitted hangar.) If present, taxiways are assumed to be paid for in the general improvements bought when paying starship hull costs for the ground buildings of a starport.

Maneuver Drives

Downport buildings cannot have maneuver drives. SPA policy is split on the utility of providing highport maneuver drives. A drive providing 0.001 Gs to 0.01 Gs of thrust can be useful for station-keeping. Otherwise, tugs must be used for this task. About two-thirds of Imperial highports feature their own maneuver drives, and most of those being built currently also incorporate them.

Example: *Mertactor's highport does have its own maneuver drives. Figuring that the port will end up massing about 1 ton per displacement ton, or 500,000 tons, we decide to give it 5,000 tons of thrust. Installing 125 spaces of maneuver drive provides this. The drives mass 425 tons and cost MCr20.*



Parts, and the Parts That They Play

[Continued]

If it is the GM's intention that the players cross the plains on foot, or by oxcart, or some other mode less comfortable and speedy than their ATV, the part is a *plot device*, and may simply be declared unavailable. ("You're 8 parsecs from the nearest drop-forge.") Or the price can be set sufficiently high that to pay it takes the story in an unexpected, but interesting, direction. ("I'll take you to a parts stash for all those laser carbines. Folks like you oughta cope without all that firepower.")

There's nothing wrong with allowing travelers to spend all their liquid assets on Stuff, especially since the GM is the ultimate arbiter of whether the Stuff is ever of any use or not. But remember that, just as a disadvantage that doesn't impair the character in play isn't one, a plot obstacle that can be overcome with an item from the ship's locker isn't one, either. And if it can be solved with a cash transfer, it doesn't count unless those credits (which are imaginary to begin with) could have been used for something just as important, like the overdue payment on the starship mortgage.

The Plumbing Factor

Some people find science-fictional restrooms fascinating, possibly because it's an intrusion of the alien into the extremely familiar, and possibly because it seems both a rather naughty and absolutely necessary topic.

Beyond the issue of Just What Do They *Do* In There, interior design for non-humans extends to everything: lighting, chairs, corridor widths. This could be handled abstractly by the following rule: If a port routinely serves more than three major races, add 5% to the construction cost of all public facilities. This automatically applies to all Class V ports.

Sickbays

SPA ports feature complete medical facilities for port personnel and passengers alike. A sickbay module should be installed for at least every 1,000 weekly passengers and employees housed at each highport or downport building (round up). On worlds with limited medical resources, the SPA often will install larger sickbay complexes in its ports.

Staff Shortages

A port director (Imperial or otherwise) under pressure to reduce costs may decide to cut staff. This can lead to disputes with the laid-off workers (and their union, if any), and, unless the reduction is in response to a drop in traffic, service will suffer eventually.

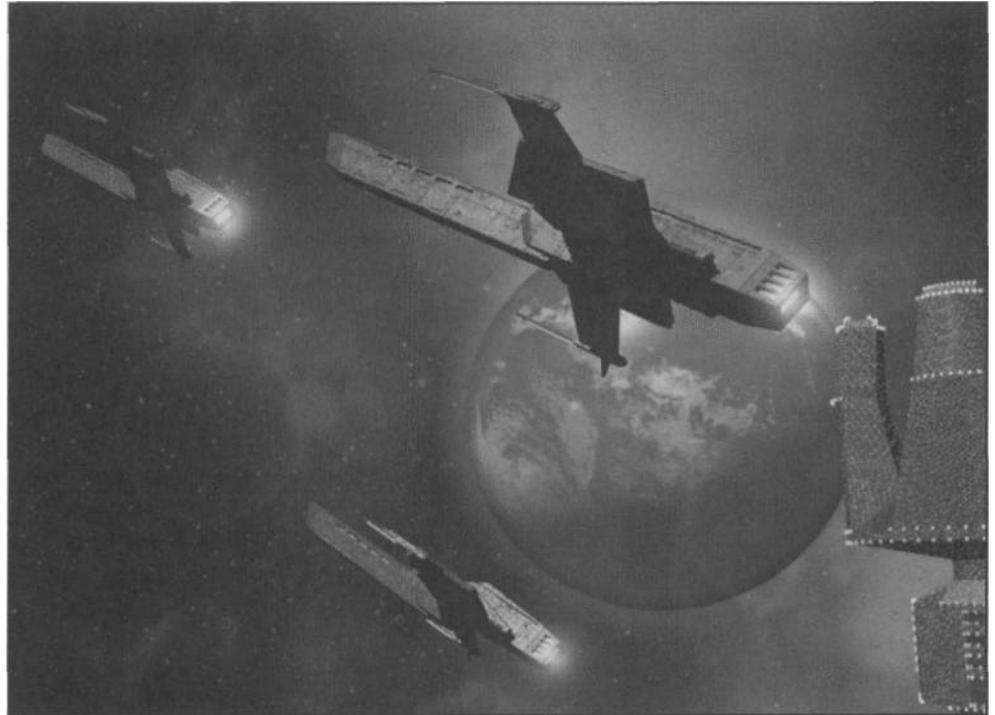
Customer relations personnel tend to be the first to go, which means that the remaining ones get overloaded, tired, and unpleasant. The job may be taken over by someone from another office who still has that work to do, in which case they tend to go straight to unpleasant with no transition time. Staff providing "comforts," such as cafeteria workers, often go early, which spreads the grouchiness rapidly through the entire workforce.

Administrators traditionally get to hang onto their jobs through a lot of belt-tightening. Sometimes this is for just the reasons you might expect, but it is also true that the paperwork and incoming comms can't be reduced by executive order, and an operation paralyzed at the top is just as stuck as one that's run out of fuel.

Ship mechanics can usually hold onto their jobs, for two reasons: Servicing is a key source of income for the port, and laid-off technicians are likely to hop the first ship to someplace with an opening, and may not be replaceable when times improve.

This is a second reason for labor shortages: a lack of properly trained personnel, especially in the technical trades. SPA can usually ship in enough brevet executives to cover any emergency, but there are only so many certified ship mechanics to be had.

Sometimes a shortage is due to industrial action. The issue of strikes, and of strikebreaking, may not be something GMs and players wish to deal with, but it can create unusual problems for travelers who thought they were just passing through. (See also *Union Dues* sidebar, p. 31.) Striking mechanics will probably not interfere with a ship's crew who do their own maintenance in a berth - the quarrel is with the port, not with them - but it may call for some polite explanations ("No, this is *our* ship.") and negotiations ("We don't have the right tools. We'd rather not rent them from the port while you people are out. That means we've got to buy them from somebody. Do you mind that?").



Highport Example: *Mertactor's highport has 3,000 employees serving 8,200 passengers weekly. It needs 12 sickbay modules taking up 12 spaces, massing 9 tons, and costing MCr1.92.*

Downport Example: *We decide to split the downport employees roughly evenly between the cargo and passenger terminals, with 1,500 in the cargo terminal and 1,215 in the passenger terminal. (Even though far more cargo comes through than passengers, passengers require a great deal more service, and many of the administration offices will be in the passenger terminal.) The cargo terminal needs 2 sickbay modules, taking up 2 spaces and costing MCr0.32. With 1,215 employees and 8,200 passengers, the passenger terminal needs 10 modules, taking up 10 spaces and costing MCr1.6.*

Utilities

Purchase these normally for highports, as well as downports that need to improve gravitational conditions.

Example: *The highport needs 1,000 utility modules, taking up 1,000 spaces, massing 11,500 tons, and costing MCr300. With a local gravity around 0.2 Gs, the downport (at least the passenger terminal) could stand to have utility modules as well, but we decide the need doesn't quite justify the expense.*

Meson Screens and Nuclear Dampers

Highports and downport buildings often have nuclear dampers installed, even if the last armed threat to the facility took place a century ago. The dampers work just as well against radioactive HAZMAT incidents as they do against warheads.

Meson screens are less common — an effective DR for installations as large as a highport would cost a great deal - but the Starport Authority has been known to justify the expense at certain key ports in the Spinward Marches. A common cost-cutting measure is to install meson screens for just critical nodes at the port.

These systems can be installed even at TL10 ports - the SPA retains access to TL12 components even when building at a lower TL, of course.

Highport Example: *Mercator can't really justify the expense of meson screens; each point of DR for the highport would cost about MCr0.26 and there's little cost-effectiveness in buying less than thousands of points of DR. We do install nuclear dampers, taking 1 space, massing 10 tons, and costing MCr4.*

Downport Example: *One nuclear-damper module protects a 10-mile radius, more than enough to cover all of the downport grounds. We install it in the passenger terminal at a cost of 1 space and MCr4.*

Vehicle Bays

Ports don't often incorporate vehicle bays; flexibility usually proves more important than saving space. Still, a major port built in an area with very regular starship schedules could realize substantial space savings by building custom bays rather than berths for regular customers.

More often, corporate tenants will sign a long-term lease for a given amount of space at the highport, then convert it to vehicle bays custom-fitted to their own craft. Starship lines with uniform fleets can enjoy substantial savings in port expenses using this strategy.

Example: *Neither the Mercator highport nor downport utilizes vehicle bays.*

Lab Modules

SPA ports rarely have any use for these, but other varieties of port may install vast laboratory complexes.

Example: *Neither the Mercator highport nor downport has lab facilities.*

Cockpit Systems, Low Berths, Jump Drives, and Passenger Couches

None of these starship and small-craft components usually have any place in a starport facility. Theoretically, a highport could mount a jump drive, but the practically nonexistent need would never justify the expense.

Naval highports sometimes incorporate great banks of low berths full of "frozen watch" personnel in times of crisis.

Stores and Supplies

Parts and logistical support for an entire year cost 0.5% of total starport revenue, and require 1 cargo hold (that will mass 1 ton when filled) for every MCr0.02 in value. These stores may be spread in any ratio among the port's various highports and downport buildings (to fill odd spaces that may begin creeping up at this point in the design process), though every installation should have at least 5% of the storage to fill immediate needs.

Example: *Mertactor's port needs MCr1,143x 0.005 or MCr5.72 in stores and supplies that will take up 286 hold spaces. We place 15 spaces worth in each of the highport and downport passenger terminal, with the remainder at the cargo terminal.*



Duty Free

Duty free" shopping has puzzled travelers for centuries. It can be an outrage to buy a dozen bottles of good liquor on a trip only to be charged import duty on arrival at home.

What "duty free" means is that since the goods are intended to be consumed or used outside the country in which they are sold - indeed, they are only for sale to people who can prove they are about to leave the country - they are exempted from local use taxes. In many cases, the goods originate in another country, but since they have only been brought to the port, no import tax has been paid. In theory, this results in a lower price than the buyer would have to pay at retail.

Duty-free stores exist where local taxes (or outright bans) make them profitable. This is a matter both of the tax bite and the type of demand. If there is a 30% planetary luxury tax on fine wines, a port-side store can sell bottles to departing travelers at the base price, or even 10% above, and do good business. This presumes that the wine will be drunk on the trip. If the tax were on, say, cameras, an item popular with leisure travelers, one would sell them only to people not expecting to return to this world - since local Customs would charge the tax anyway when the tourist got home. (The storekeeper might, of course, allow the tourist to buy the "cheap" camera without mentioning the homecoming surprise.)

There is no special advantage to duty-free shopping on worlds without import duties charged when leaving the port; thus they are never found on Imperial worlds.

Duty-free stores are usually owned by planetary locals, as most worlds do not charge import duty on money (corporate taxes are another matter). Others are run by interstellar, or at least off-world, corporations. Non-Imperial ports often operate duty-free for their own benefit (resulting in the curious situation of a government profiting from both its high import taxes and helping people to evade them).

The people who get the most out of duty-free shopping are starship crew members, who may go for years without ever crossing an XT line.

PUBLIC, STAFF, AND COMMERCIAL SPACE

To this point, the port has everything it needs except "people space" - the facilities for passengers, SPA staff, and commercial tenants to go about their business. We'll add the essentials first, then leave the remaining space (if there *is* any remaining space, in the case of our cramped example port) for additional commercial exploitation.

Concourses

Concourses are the large passageways through which passengers move to reach their shuttle's or ship's gates, the nearest restroom, the baggage claim, etc. They tend to have high ceilings and are lined with rented-out retail outlets (bars, snack bars, newsstands, etc.). They also include departure lounges, though most passengers immediately board their ship and begin unpacking prior to departure. (Starships can't wait till the last minute to board everyone.)

Among the concessions, large starlines often have lounges reserved for the exclusive use of their passengers. All major ports have a VIP lounge for the use of any passenger requiring additional security: nobles, politicians, or sometimes criminals in custody.

Use the plaza habitat module (see p. 103) to represent concourses. Each major port should have 1 concourse per 5,000 weekly visitors, rounding up. (Alternatively, the GM may install fractions of a habitat module.)

Minor ports usually do not have concourses. They instead install 1 empty space (500 cf) per weekly visitor, representing hallways, probably a single waiting area, etc. Any retail presence will have to be installed individually for a minor port (whereas major ports can assume a certain number of shops are provided for in each concourse).

Highport Example: *Serving 8,200 passengers per week, the highport needs 2 plaza modules, taking up 20,000 spaces, massing 60,000 tons and costing MCr2.*

Downport Example: *Here's where our outmoded buildings begin to show their age. The passenger terminal doesn't have enough room left to fit the 2 concourse modules that it should have. For now we won't bother installing a fractional module; we settle for just one (leaving our downport passengers jostling elbow to elbow at the moment, but see p. 86). It takes up 10,000 spaces and costs MCr1.*

Offices and Work Areas

Every starport has a substantial percentage of administrators, many of whom only work the local equivalent of the "9 to 5" shift and leave an untended desk during other shifts. In addition, these modules suffice to represent more general work areas - employee cafeterias and dining halls, Security wardrooms, janitor's closets, and whatnot. In all, each major building must have 1 office module (see p. 103) for every 10 employees on site, including flight personnel,

Highport Example: *The highport employs 3,000, so it needs 300 office modules that take up 1,200 spaces, mass 1,062 tons, and cost MCr5.4.*

Downport Example: *We divided our downport employment pool into 1,500 at the cargo terminal and 1,215 at the passenger terminal on p. 82. The cargo terminal needs 150 office modules taking up 600 spaces and costing MCr2.7. The passenger terminal needs 122 taking up 488 spaces and costing MCr2.2.*

Equipment

Starport staffs need the right equipment to do their jobs, from autobrooms for janitors to grav cruisers and sidearms for Security. Several examples of this gear can be found in Appendix A. Some equipment already has been purchased - most notably the small craft and non-starships needed to conduct starport business, and the tools port mechanics need to service visiting starships. Some equipment can be assumed to be present with the appropriate modules, but other examples won't be. For instance, a sickbay module will include "crash kits" and staple medical supplies, but a cargo module doesn't include a forklift.

Rather than catalog each additional item needed, the GM should spend 50% of annual revenue on general equipment. It has no volume, being stored in the already

The Life of a Starport

Starports undergo a maturing process, reflecting the growth of the surrounding city, from an initial colony to a well-established facility with a history. This is true regardless of the size and type of port. This evolution follows five distinct stages; separate sections of the same port may be at different stages at the same time.

Development

When the starport is new, it has a raw, open vitality like nothing else. Every facility is either temporary or newly built, and construction is constant. People have to improvise and make do until full capabilities come online. Colony worlds grow up around the first (main) starport; the port city dominates growth in the early years and usually becomes the planetary capital in the end. The town outside the gate, therefore, is as raw and new as the port - entertainment is bound to be a little rough (the beginnings of Startown), but essentially open and not entirely unhealthy. This phase itself is temporary, but may be repeated in part at the groundbreaking of each new facility.

Maturity

As the city grows up, so does the starport. Construction is completed; eventually berthing capacity becomes saturated. The center of commercial and social activity in the city moves away from the old core around the starport. Outside the gate, the city gives way to purely starport-oriented businesses: warehouses, chandlers, freight consolidators, and an expanding Startown. The tone of the starport is businesslike and work proceeds with the utmost concern for efficiency. This is a stable phase, and many Starports remain at their peak for centuries.

Decay

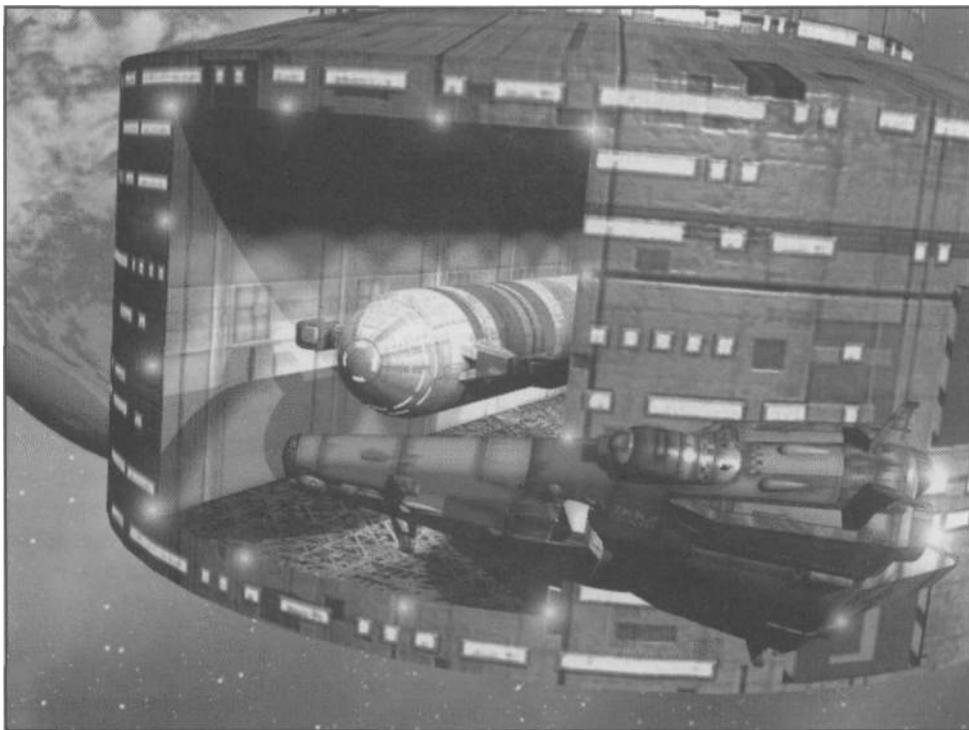
Eventually, the starport passes its peak. Perhaps demand exceeds the capacity to meet it, and a new facility is built, farther out from the city center. As the port ages, perhaps it becomes more economical to open a new facility than to continue to maintain the old one. Perhaps public perception of the port as seedy and run-down simply turns into self-fulfilling prophecy, as the former business of the port goes elsewhere. In its place come the marginals: old freighters, looking for a break on berthing costs; free traders who can no longer compete with the big liners at the main ports; and those whose business can least stand the scrutiny of the authorities.

Continued on next page...

purchased work areas when not in use. (For grav vehicles, work area becomes converted into a suitable berth area as appropriate.) Much of the heavy stuff (grav vehicles in particular) will be at the downport, so highport mass increases only 1 ton per MCr2 spent.

The GM may feel free to purchase actual inventory items from this fund, should he desire. Beyond this book, *GURPS Traveller: Far Trader* in particular describes useful stuff, as do the two *Ultra-Tech* books.

Example: *The Mertactor starport spends MCr571.5 on general equipment. This increases highport mass by 285.75 tons. All of the exoskeletons and ambulances, cookpots and laser pistols, will have to come from this fund.*



Detention Cells

Some Starports will have cells for unruly patrons; some don't bother, contracting with local authorities to hold arrested personnel. Any existing cells are purchased as brig modules (see p. 103).

Example: *The Mertactor highport has two cells (8 spaces, 22.8 tons, MCr0.1).*

Housing

Highports that house staff (or others) on the grounds must provide housing. Most Starports offer apartments purchased as starship staterooms at 8x normal volume. Starports with tight space offer small apartments treated as staterooms at 4x normal volume. Most downports, and those highports that can afford it, offer housing purchased as a housing habitat module (see p. 103) and are *very* popular with veteran SPA personnel.

Example: *The Mertactor starport includes no housing.*

Parks

Well-funded Starports might offer a park to relieve traveler stress and anxiety. These are purchased as park habitat modules (see p. 103). Downports need not use interior space for the park unless on a hostile world.

Example: *The starport has no parks.*

The Life of a Starport

[Continued]

The city outside the gate reflects the changes in the port. Entertainments and businesses alike become darker and less likely to be legal. Crime abounds among the marginals, but the police keep their priorities elsewhere until they no longer dare to venture into the streets they abandoned long ago. This is the classic picture of startown, and the climax of its growth. This is also a stable state, and startowns have lasted unchanged long enough to become institutions in themselves.

Transition

Other, more legitimate but equally poor, elements move into the area eventually, seeking freedom and affordable infrastructure. Artists and students are the classic examples, but any marginal subculture might benefit. Whatever the motivation, the method is the same: Take over abandoned commercial property (perhaps even illegally, by squatting) and turn it into something new. Warehouses become studios, art galleries, and theaters; offices become funky little boutiques. The Startown begins to show a healthier side again - first at night, later in street festivals and open-air markets. As the light returns to the area around the port, the dregs move on to find the safe darkness again.

Renewal

The transition phase never lasts long - rarely even a single generation. As word spreads from the subculture to the mainstream, the investors and the imitators come. The startown becomes gentrified - the clubs and the shops are still there, but the real talent behind them is gone, driven out by rising property values, or co-opted. Now the old port receives back the life that it gave to the startown; investors restore the port, either to a facsimile of its "former glory" or to some wholly new vision. The "quaint, romantic" oldport becomes the principal passenger terminal in the starport complex. The rich and trendy board their private yachts, vacationers disembark excursion shuttles from their orbiting liners, close to the new cultural center of the city. Small, general-purpose cargo vessels (read "free traders") may be diverted to the oldport when pads at the new commercial terminal are filled with larger (and more profitable) customers. This final stage may be stable as well, or may be followed by successive cycles of decay, transition, and renewal. This is especially the case when there are two or more competing "oldports."



Brubek's: "When You Already Know Where You Are"

Brubek's is a chain of starport taverns, located in Class V, IV, and a few III ports. Of the 200 units, half are in Solomani space, 20 in the Sword Worlds, and the rest scattered through the Imperium.

Along with food and drink, Brubek's sells familiarity. Every unit looks just like every other: same decor (dark wood, leather, and brass), same view (a holographic panorama of a Generic Big City by Night, on the wall to the left of the front door), same menu, same bottles behind the bar. It is a recreation of a romantic ideal. . . a neighborhood joint from the near-mythical pre-spaceflight days of Old Terra. Even the floorplan is always the same (see p. 87). The only difference is that some high-traffic locations get a slightly bigger Brubek's; the "modular expansion section" in the middle is repeated once or twice. Each module adds about 14' of depth, giving room for four more tables and four more booths. But no Brubek's is ever *very* big. Behind the scenes, things will look different; the manager's office and the warehouse must fit into whatever space is available. Sometimes there's even a private room for very favored customers, maybe even with its own unmarked exit to the spaceport concourse. But most regulars not only don't know that, but wouldn't believe it unless they saw it.

All but a few of Brubek's employees are Human, and most of those are Solomani. There is no rule about this; it just reflects the "homeworld bar" nature of the place.

Brubek's brews its own beer (light, amber, dark, and porter) and ships it as a relatively stable concentrate. Patented machinery ensures precise reconstitution on-site; the device is backed up by the regulars (and Brubek's only has regulars) who know what the beer is supposed to taste like and will let everyone around know if it's "off."

The menu is basic: burgers with the usual options, skin-on fries, onion rings, and "bowl of red" chili (mild, hot, and fusion-core). There's also a green salad, but they don't serve many of them.

The clientele is mainly Solomani, with some other Humaniti and a number of Vargr (not surprising, given all that red meat).

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COMMERCIAL SPACE

At this point we've completed our official needs for the starport. Whatever space is left will be available for tenants' commercial usage. Normally, this will be between 20% and 40% of the volume available in the highport hull and downport buildings.

If they wish, GMs can stop here, and assume an additional 2 stons highport mass per dton of commercial space. Or they can go ahead and figure out what commercial services are offered. Regardless, the SPA won't be paying the improvement costs, so the only concerns are volume and (at highports) mass.

Some common tenants and design notes about them:

Hotels

Hotels purchase starship staterooms, at 4x normal volume for standard fare, 8x normal volume for luxury suites, or half for slotshops. They may add bars, restaurants, conference rooms, swimming pools, etc. from the selection of modules on pp. 103-104. Hotels usually only rent space at highports, preferring to locate just off the downport site.

Warehouses

The SPA already offers long-term leases on the hold space already installed at each port, but additional freight storage taken from the commercially available space is not unknown. This usually consists of hold spaces and maybe one or two office modules. Particularly secure installations may add extra-tough walls and security systems; just add an appropriate mass (to represent the extra armor) to the highport mass.

Theaters/Entertainment

Stages and auditoriums may be purchased (and pooled if need be) on p. 104.

Factories

The SPA rarely places factories in its Starports, other than shipyards, but many tenants do. The tenant would purchase these as factory habitat modules.

Highport Example: *The highport has 43,229 of its 500,000 spaces remaining. Hotel rooms numbering about 1,000 beds would be in order, so we add 900 standard rooms (14,400 spaces, 2,160 tons) and 100 luxury suites (3,200 spaces, 240 tons). A 10-module swimming pool (70 spaces including the precautionary spacedock modules described on p. 104, 270 tons) and 500 theater seats (100 spaces, 10.5 tons) will help entertain the guests. A factory habitat module (10,000 spaces, 50,000 tons) leased by a local consortium allows zero-gee manufacturing. An additional plaza module (10,000 spaces, 30,000 tons) will be dedicated solely to use as a shopping mall. The remaining 5,459 spaces will be rented out to the odd private shuttle service, warehouse, etc.*

Downport Example: *The cargo terminal has 3,087 spaces remaining and the passenger terminal 3,473. We decide that a single tenant has a partial factory habitat module installed at the cargo terminal, under a sweetheart deal agreed to by the local government to make duty-free export goods for Imperial Navy purchase. The commercial space in the passenger terminal will be filled with a partial plaza/concourse module, meeting some of the public-space needs we shortchanged on p. 84.*

Non-SPA Starport Needs

The proportions of various components in this chapter will vary at other starports, such as naval or scout bases, and some equipment not normally seen at commercial ports will be in place (see the modules list on pp. 103-104 for examples). The GM should freely adjust ports' contents to reflect their mission.

STEP 9 - PROOF DESIGN VS. BUDGET

The starport does not need to meet its budget precisely, though any port well out of proportion to its budget will be a strain on SPA resources. Those under their budget will be a welcome relief, though one too far under suggests that it is underselling its system.

Example: The Mercator highport ended up with a cost of MCr8,602.63. (And, incidentally, a mass of 479,095.53 tons.) The downport cargo terminal cost MCr46.57 and the passenger terminal MCr107.13. Various small crafts, non-starships, and other general expenses cost MCr2,496.95. The total is MCr11,253.28, or GCr11.25. Since our construction budget was GCr14.29, we're well under - but a major port on a relatively low-tech world **should** be well under, because it'll have to subsidize the same size of port on a higher-TL world.

Brubek's

[Continued]

Weapons are tolerated in Brubek's, but violence is not, not even the typical starport-bar "brawling." People go there to relax; there are plenty of taverns one can visit for a fight. Lucky violators of this rule will be ejected by the staff; unlucky ones will get the bum's rush from the customers.

Because of this calm atmosphere, Brubek's is an excellent place to meet contacts or patrons. The bartenders hear a great deal of gossip - probably more than the average, since the customers feel more "at home" than at less familiar places - and while they're expected to politely keep secrets, they'll normally cooperate with legitimate investigators, or adventurers in a sufficiently noble cause.

For free traders, a contract to supply Brubek's branches (the "Brubek's Brew and Burger Bus") can be a good way to pay the bills; a typical major-port unit uses 500 gallons of beer concentrate and 1,000 pounds of ground beef a week (1 dton/month). Because of the standard nature of the units, a complete facility, including furniture, carpets, and the beer machinery ("Bek's in a Box"), can be shipped to a new franchise site in two 20' 4C containers (8 displacement tons and 36 standard tons total).

STEP 10 - ALLOCATE PERSONNEL

Now that the physical port is finished, personnel can be distributed among the various departments. In doing so, usually the crew requirements for starship modules can be safely ignored - port personnel assigned to that function will greatly exceed the numbers given for safe starship operation. Still, these can be referenced as minimum staffing numbers should conflicts arise. Staffing can vary considerably, but in general each department has the following percentages of personnel:

Administration 8% (Executive 1%, The Line Office 0.5%, Concessions 1%, Legal 0.3%, Financial 1%, Personnel 1%, Labor Relations 1%, Records and Data Processing 0.2%, Public Relations 0.3%, Commercial Liaison 1%, Military Liaison 0.1%, Employee Residence 0.1%, and Contracting 0.5%).

Traffic 10% (Traffic Control 6%, Ship Registrar 0.3%, and Vehicular Control 3.7%).

Ship Services 25% (Berthing 1.5%, Fueling 0.5%, Stores and Provisioning 2%, Maintenance and Repair 4.5%, Housekeeping 1%, Certification 0.3%, Hiring Hall 0.2%, and Shipyard (if present) 15%).

Cargo 20% (Freight Handling 15%, Warehousing 4.5%, HAZMAT Storage 0.1%, Brokerage Office 0.3%, and Special Handling Unit 0.1%).

Passenger Services 12% (Hospitality 0.1%, Passenger Assistance 0.1%, Baggage 10%, and Passenger Transport 1.8%).

Security 2% (Tac teams vary widely and aren't often full time; Customs is separate service).

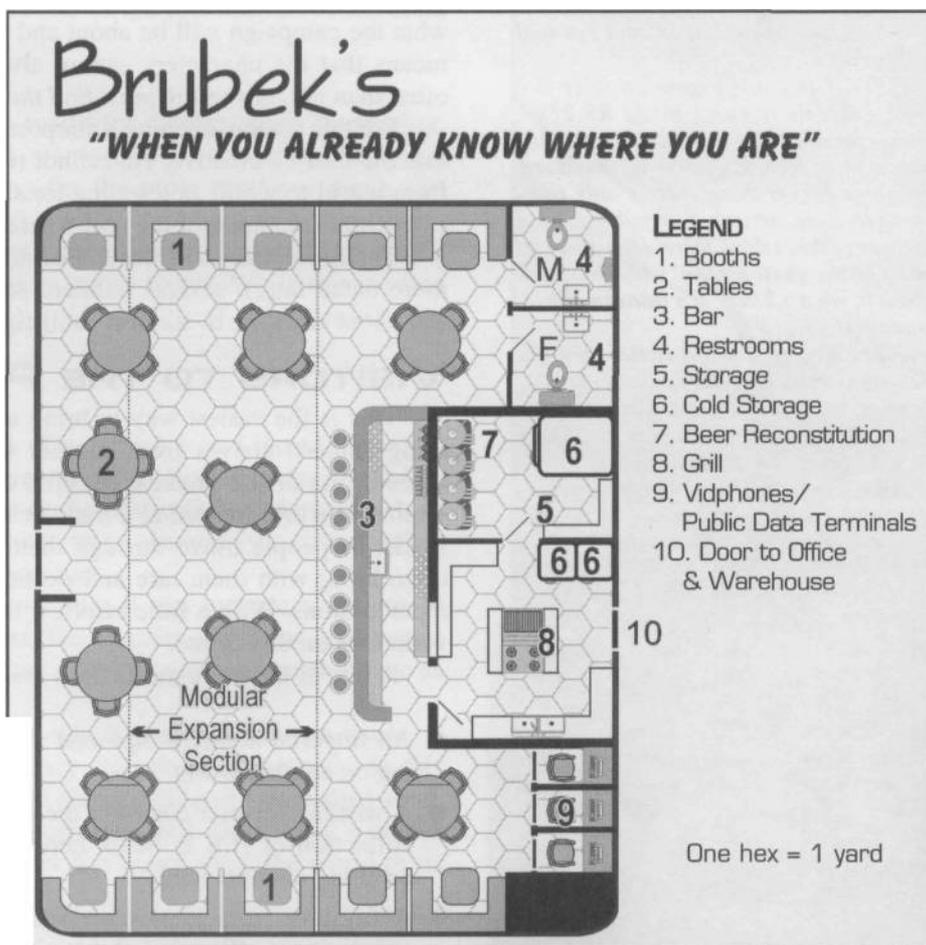
Medical 0.5%.

Emergency Services 0.5%.

Flight Operations 10%.

Physical Plant 12% (Engineering 5%, Power 2%, Data/Comm 1%, Transport 1.5%, Central Stores 1.5%, Commissary 0.5%, and Housekeeping 0.5%).

Example: We can spot-check some numbers given what we already know of needs from our staff of 5,715. We've already kept a tally of flight crews, since they're best kept track of as the various small craft are purchased. We needed 485 personnel for transfer craft, 30 for employee shuttles, and 35 for the oiler that services the downport, for a total of 550 people. Comparing that to the formula's 10% of 5,715 suggests 572-550=22 personnel maintain the fuel blimps that supply the highport, which may be a bit low. Our nine traffic-control modules average needing six people each x5 for full-time operation, or 270 people. The formula gives us 343, so 73 probably could be used elsewhere should the numbers appear low there.





Starport Legend: Research Station 2197

"No, I ain't got the data slide. Have to go find that yerself, if y'want it. Yeah, there's a slide, I seen it, an' a day later the guy what showed it to me had a real bad accident. He was cleanin' a pulse carbine an' accidentally shot hisself in the back. Four, five times. Careless, y'know? Security picked up his stuff with a dustpan, and wasn't any data, just two thou in fresh Imperials. That's how they knew it was just an accident, not a robbery. I like Security, they're real Starbuck Hornbeams. Whatever.

"So I ain't got the slide, and I'm real happy that way.

"But if you still wanna go after it - well, look, there **can't** be an RS 2197, 'cause for one thing they give 'em whasit letters - Sy-leen, right? - not numbers, an' for a bigger thing there's only four-hunnerd-some stations they tell us about, and even I don't think there's five times as many on the ghost list. An' when you think about it, what's 2197? It's **thirteen cubed**, is what. Get it?

"The guy tole me a little, though, before he had that heavy date with his firearm, and the big thing was . . . here, lemme write it on this napkin. See these letters? Stand for 'Galactic Large Angle Interferometer Viewing Experiment' - that's a hy-phoon there - 'Gravitic Ultrawave Immense Synthetic Aperture Remote Measurement Evaluation.' Oh, an' that's 'two' in Sy-leen, not 'aye-aye.'

"So is that somethin' or what? Ain't it worth another drink, an' maybe a cheeseburger-fries?

"Well, if that's how you feel, you can figger out for y'self where the guy said he was goin' next. And hey, I got the napkin all wet. Hope you got a good memory for names."

In most campaigns, Starports will serve only as backdrop or, at most, the setting for a scene in a larger story, not as the basis for an entire game. This does not mean that a Game Master could not set an entire adventure or campaign entirely within the confines of a single starport. There are a variety of possible ways to use a starport in a *GURPS Traveller* game.

THE STARPORT CAMPAIGN

The most obvious way to employ a starport as the basis for a campaign is to have the player characters employed by the starport. Such a campaign can have many variations, depending precisely on *how* the characters are employed. A starport campaign in which the characters are all members of the CFR team will be quite different from one in which they are all members of the Customs service. Each game will offer its own special challenges and rewards.

Game Masters and players should decide several things in advance in order to plan this type of campaign. Unlike the typical *Traveller* campaign, characters in a starport game tend to be tied down to a single locale for long periods of time (see below for other options). For that reason, it is essential that there be some vision of what the campaign will be about and where it is headed. Being settled in one place means that the characters cannot always seek out adventure on their own. More often than not, adventure *must find them*.

For this reason, keeping a starport campaign going session after session requires that the GM be creative. He cannot rely on the fact that the characters will wander from world to world as a source for scenarios. Instead, scenarios must arise organically from the nature of the port where they are located.

Though details will depend on the player characters' jobs (to be discussed in more detail later), several standard scenarios can be applied to bring adventure to just about any type of starport campaign.

VISITORS TO THE PORT

This is the easiest way to bring adventure to the starport - someone or something unusual arrives from another world. These visitors can be almost anyone; indeed, one of the greatest benefits of a starport campaign (especially one on an important world located at a trade or travel crossroads) is that hundreds, even thousands, of people move through them on a regular basis. Moreover, these people often bring with them rare and exotic cargo, some of which may have unforeseen repercussions. With a little effort, it is quite simple to come up with several dozen variations on this theme.

A few of the more useful ones are:

- An Imperial noble or diplomat visits the starport en route to an important meeting on another world.
- A wealthy traveler comes to the starport and is carrying with him part of his rare collection of [fill in blank here], which he must store at the port while he is awaiting his next jump.
- A fugitive from justice arrives at the starport with a bounty hunter or law enforcement officer in hot pursuit.

Of course, one can combine two or more of these scenarios to create a longer and more unusual one. In fact, one of the keys to a successful starport-based campaign is variety. After a few adventures, a sense of sameness could easily arise. Avoiding that is one of the GM's primary challenges.

DEALING WITH THE LOCALS

GMs must bear in mind that no starport is an island (well, it might be located *on* an island, but that's another story). All Starports exist within a context. Using that to good effect is one of several ways that a GM can make up for the fact that a starport campaign is generally restricted to a single system or world.

Developing the world on which a starport is based is an obvious way to achieve this end. Remember that each world of the Third Imperium is unique, with its own history and local color. In some cases, a world may even have its own indigenous sophonts. All of these facts can be employed as the basis for adventures in a starport campaign.

Likewise, one should never forget to examine the local political situation. First, the world on which a starport is based may not have a high regard for the Imperium. Even on non-Opposed worlds, local politics can be a source of tension and drama. Consider a world whose government has recently been overthrown and whose new rulers have promised to "expel the offworlders from the face of our fair planet." The world may still be friendly to the Imperium on paper, but the wheels have begun turning . . . Other possibilities include:

- The world is governed by a religious dictatorship with some rather strange ideas about people from other worlds.
- The world possesses two intelligent species, one native to the world and another that is not. The natives are treated as second-class citizens and are otherwise mistreated by the later colonists.
- The world is balkanized, and the starport is one of the few sites not controlled by any of its warring nations.

The most significant point is to make the world (or system) seem interesting. This is admittedly not possible in all cases. A starport on a vacuum world with a minimal population is probably pretty boring for the most part; not much can change that. Most *Traveller* players consider the entire Imperium to be their playground. In a starport campaign, the GM must take pains to ensure that a single world holds as much potential for adventure as an entire sector. While this is often a difficult task, doing so successfully will provide plenty of opportunities for adventure in the future.

DISASTER STRIKES

Starports are designed with multiple levels of redundancy and incredible safety features. Nevertheless, it is possible for accidents to occur. Not all of these need be armageddons that result in thousands of deaths or the destruction of the starport. In many ways, disasters of that sort are not always as interesting dramatically as are smaller and more personal varieties.

The category of "disaster" is an expansive one; it can include a variety of unfortunate occurrences. On some level, events like terrorist attacks or civil unrest can be considered disasters for the starport. They certainly cause as much havoc as an earthquake or a starship explosion.

The key to the use of any kind of disaster, whether natural or man-made, is to place not only the characters but something they care about in jeopardy. In this regard, a natural disaster will work best once the characters have established some kind of attachment to the world on which their port is located. Destroying a city or killing locals serves little purpose if the characters don't care about the world or its inhabitants.



Scenarios and Adventure Seeds

Forlorn Hope

Situation: The starport is under siege, and the defending forces, including the characters, have to maintain the perimeter until relief can arrive.

Note that this scenario should be oriented toward roleplaying, not a large-scale battle. Combat skills need not even play the primary role - the characters may be called upon to negotiate, attempt rescues in the "no man's land" of the XT line, or perform emergency repairs on reactors or the last shuttle's maneuver drive.

Gauntlet

Situation: After an assassination attempt, the port is split between personnel who are loyal (this will include the SPA staff, who with their desire to avoid bloodshed end up essentially supporting the target) and those who are rebellious (mostly agents inserted into the port, and perhaps sympathizers who happened to be on site at the time). The characters have to protect the intended victim - and themselves - with no certainty of who can be trusted. Even a fellow starport staff member could be a local who secretly sympathizes with the rebels . . .

Aftershock

Situation: A natural disaster traps a group of free traders far away from the starport - and their vessel. They have to cross a disrupted landscape, fighting to survive (and, if they're sufficiently altruistic, helping others to survive as well).

Details: The group traveled by cross-country monorail, some of them stopping at intermediate towns (for sightseeing, to buy supplies, whatever). They are thus spread over several hundred miles of country when a series of earthquakes (and consequent landslides and floods) smashes the rail link and drives tens of thousands of people out of the wrecked cities. Many of these refugees desperately want to reach the starport and get offworld, and some of them will do literally anything to get hold of a functioning transport.

If the characters can simply grab a grav ATV and drive home, picking up their companions on the way, the scope of the adventure is somewhat limited, though there could be plenty of interesting encounters at each intermediate stop - helping rescue victims from collapsed buildings, setting up field hospitals, evacuating a few others (who might be gravely ill and need treatment at a real hospital, be able to pay handsomely for the ride, or get aboard at gunpoint).

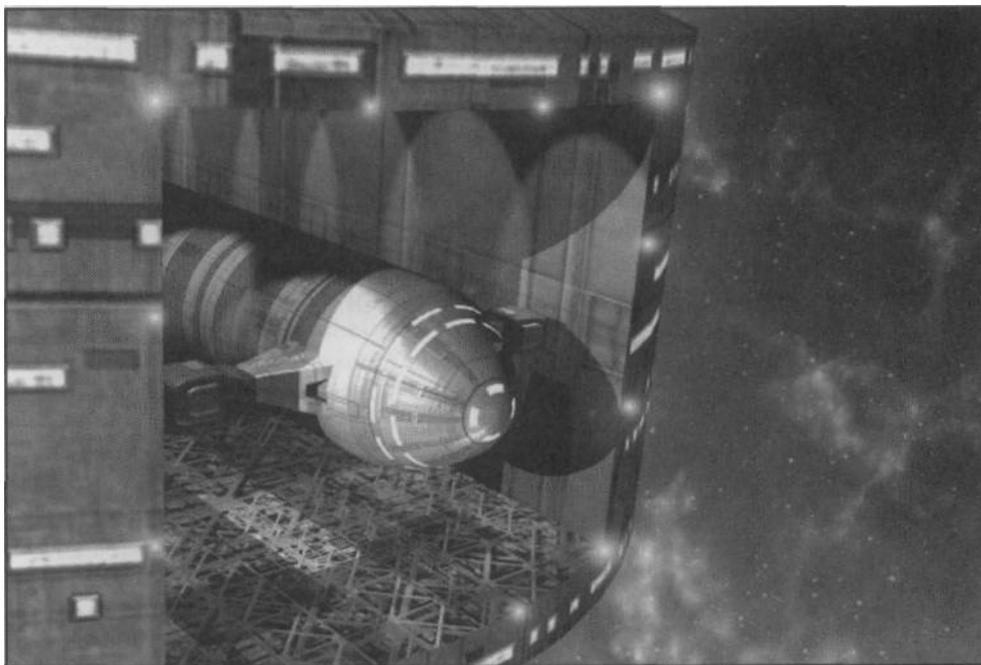
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At the same time, disasters need not be large-scale events. Something as small as the theft of an important cargo container or the misplacing of an ambassador's luggage can prove disastrous, especially if the cargo was a powerful explosive or the luggage contained diplomatic briefings. The important thing to bear in mind is that any disaster should place the characters and possibly the starport at risk.

A few examples of such disasters are:

- Severe weather grounds all traffic on the planet's surface, forcing several mutually antagonistic groups to remain at the port together.
- Anti-Imperial terrorists claim to have planted a thermonuclear device somewhere at the port on the eve of a delegate's arrival.
- A war between planetary nations sends thousands of refugees to the outskirts of the starport, begging to cross the XT line to reach safety.

Disaster relief (whether large or small) gives the PCs a chance to interact with several different departments within the starport administration. If the characters are not sufficiently senior (see below for more details), this experience could be as frustrating for them as it is for outsiders. In any event, such an adventure could offer an opportunity for detail-oriented players to shine.



THE HIGHPORT CAMPAIGN

Most Starports in Imperial space have an orbital as well as a ground component. For the most part, setting up a campaign on a highport is not much different than setting one up at a downport. In fact, there's no reason that a starport campaign cannot include both elements in its ongoing structure. Many GMs will rightly see both as essential to the continued health of his game. After all, being able to go into orbit every so often provides plenty of additional opportunities that are unavailable to a solely land-based game.

Whether or not both elements are included makes no difference. The important thing here is to recognize what a highport offers that a downport does not. Most obviously, a highport offers the characters a chance to interact with Big Ships. The largest vessels in the Imperium are unstreamlined, and thus incapable of landing on a planet's surface. Consequently, they call only at highports for repairs, maintenance, and refueling.

Characters posted to a highport will get a chance to see these mammoth vessels and interact with their crews. These are not just scaled-up Free Traders. Their crews

consider themselves elite. They can carry larger and more interesting cargoes. Similarly, a large ship affords stowaways and smugglers better places to hide. You should get the idea by now.

Another fact to consider is that some of the largest vessels in regular use belong to the Imperial Navy. If a GM wants to include any kind of interaction with a dreadnought and her crew, the highport is the place to be. While it is true that most really big military vessels call at their own special ports, this isn't always the case. Exceptions abound in the Imperium, and they can be the basis of some very enjoyable adventures.

Finally, the controlled and precarious nature of the highport can be used as part of an adventure as well. While terrorists can still do lots of damage to a downport, they cannot *decompress* it unless it's on a hostile world. Almost any disaster that a downport can experience becomes that much worse on a highport. In addition, manhunts and other cat-and-mouse scenarios can be very tense in a highport. Just imagine the fun a GM can have when a newly discovered life form escapes from a large mining vessel onto the highport . . .

THE DIRECTORATE CAMPAIGN

In this campaign setting, the characters are all high-level members of the starport's administration. One of the characters might even be the port director himself. Campaigns of this sort will probably appeal to bureaucratic types who enjoy "making the starships jump on time." Of course, there is no reason to limit such a campaign to mere administration and other minutiae. After all, a port director and his staff command great authority. Why shouldn't they use it?

A Directorate campaign should focus on significant events, not mundane ones. While it is true that much of a director's job is quite unexciting, such things are not the stuff of adventure. Instead, a GM should think of the director and his staff as lords of a small domain: the starport. By keeping this political metaphor in mind, scenario ideas come into sharper focus.

Adventures should revolve around preventing disasters (and reacting to them when they do occur), high-level visitors, inspections, dealing with local problems, and so forth. The key to making such a campaign exciting is to emphasize the limitations of even a director's power. While he may be the final authority at a starport, he is still limited by the competence of his staff and the availability of his supplies.

To that end, feel free to throw twists and turns into an otherwise ordinary scenario. Keeping the starships jumping on time becomes much harder when all the starport engineers go on strike, for example. Having to deal with a muckraking reporter while keeping a protocol-obsessed Aslan delegation happy is also a great test of one's abilities. Always be willing to combine several different problems into a single scenario. The life of a port director and his staff is not non-stop excitement, but, when it gets interesting, it can get *very* interesting indeed.

THE INSPECTORATE CAMPAIGN (PART 1)

Another campaign option is one in which the characters are an SPA inspector's team of agents (see p. 17). Like the Directorate campaign, this one provides the characters with a great deal of authority. Unlike it, the Inspectorate campaign rarely deals with mundane matters, except in the context of something that might arise out of it (but see below).

There are several strong points to this framework. They are:

- Transportation and equipment are not a problem. The team will be assigned a ship and equipment (of course, they are expected to bring it back intact).
- Game sessions are mission-driven. The agents have a specific job to do, instead of heading off in a random direction, hoping to trip over an adventure.

Scenarios and Adventure Seeds

[Continued]

If travel is overland, on foot, or short hitched rides, a more open-ended mini-campaign results, in which almost any crisis might present itself, from a sudden outbreak of contagious disease to "The river's swollen to 2 miles wide and there isn't a usable bridge for at least 80 miles up or downriver; *now* what?"

The port, once reached, will be mainly devoted to relief efforts (see *The Starport as Disaster Agency* sidebar, p. 37). While a port director cannot directly commandeer privately owned vessels (though scout ships on loan to ex-scouts are entirely fair game), he *can* deny permission to lift, or even to refuel and buy supplies, until the crew has "gone the extra mile" by flying a rescue mission or two. (There should be some appropriate reward, in money, goods, or an important person, possibly a rescuer, who now owes them a very big favor.)

Legal Targets

Situation: Members of a terrorist organization are barricaded, with hostages, in a public area. Drawn by the prospect of a big reward (dead or alive, naturally), every professional and amateur bounty hunter at the port has joined in the siege.

There's a catch, however: one of the hostiles is actually an undercover police agent, with critical information on the rest of the criminal organization. This person has to be "captured" alive. Because the gang is likely to have a spy or two of its own among the attackers, the Security squad has to keep this information to itself.

A natural follow-up to this operation is one using the agent's information to attack and clean out the gang's headquarters.

Variations: If this seems too easy . . .

- Don't tell the players *which* of the terrorists is the secret agent, meaning that as many as possible have to be taken alive.

- Assume that in order to destroy the gang, the agent must not only survive, but be plausibly allowed to "escape," so that he can "leave a back door open" for the follow-on mission.

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Scenarios and Adventure Seeds

[Continued]

Silencer

Some covert operation is being run out of an Imperial port on a non-Imperial world. This could be a criminal caper, such as a swindle, robbery, or smugglers' contact, but let's assume that it's a "white hat" job, such as an antiterrorist action.

Someone - possibly a terrorist, but the team may not be certain - discovers the existence of the cell and escapes into the starport crowd. If this person passes on the information - to the bad guys, or innocently to Security - the mission is over. The problem is to locate the person and make sure the information is not spread - without the team blowing their cover.

Variation: The "informer" doesn't know he has the information. Suppose, he's purchased a copy of the band Veedbach's *I Can't Hear You Either* disc that contains the Secret Data. Not only will this make identifying the target harder (after all, Veedbach is a popular band), but getting it back without blowing the operation will require some tricky headwork.

There Are No Accidents

Crash investigators do not like to use the word "accident." An accident is something that just happens, no more predictable than triple sixes on the dice. Nothing can be learned from an event that had no actual cause. A crash, on the other hand, happened for reasons.

Failure analysts recognize two kinds of causes. *Proximate causes* are those that directly triggered the event - the heavy truck on the weak bridge, coupled with the torrential rain. Proximate causes are usually obvious; the investigators always consider them, but a proper study requires looking further.

Ultimate causes are the conditions that made the triggering possible: poor drainage design on the bridge, deferred maintenance, use of inferior concrete and insufficient reinforcing material when it was built, making the collapse inevitable as soon as the right factors presented themselves. Discovery of an ultimate cause may shift part of the blame (as, from the operator of the overloaded truck to the building contractor), cause a reexamination of a "standard" procedure (bridge maintenance schedules) - and sometimes cost so much money that those liable would do *anything* to keep the report from coming out...

- Though the team has a powerful Patron, during the mission they're on their own, except for any allies they can collect (and establish as genuine) on the spot.
- Their charter is very broad, allowing an investigation to be pursued anywhere the clues lead. One can't be sure at the beginning that a case of missing machine tools won't lead to a secret pirate stronghold in a planetoid belt, or perhaps a plot to assassinate an archduke.
- The nature of space allows the agents to visit a series of new places, exposing new plots, without major worries that they'll be immediately recognized.
- Missions call for teams of specialists, rather than omni-competent super-characters, which suits roleplaying at modest character point levels.

In designing adventures for the Inspectorate campaign, the GM would be wise to consider some of the following options. Each of them provides a convenient way to structure an adventure that is in keeping with the Inspectorate's typical missions.

The Con. The villains have possession of an item, or information, that can't be taken by simple force. The team must therefore convince them to hand it over voluntarily. Creating the belief that the hiding place is compromised and must be changed might do this, as might the impression that the target can be traded for something *more* valuable.

The Heist. The target item can be stolen, but is so well protected that the theft seems impossible. This one can be difficult to do as a game, especially in science fiction, as it easily becomes a duel of gadgets. (Conversely, this may be a *selling* point for some players.) If the adventure calls for ingenious use of skills and character interaction, this can be a tense and suspenseful adventure format.

The Setup. The target is a person, definitely guilty but untouchable by the law, whose own allies will be persuaded to take him down. Usually this means convincing the partners, subordinates, or superiors that they have been, or are about to be, betrayed, and letting the natural mistrust of criminals do the rest. In *Traveller*, Mr. or Ms. X might be a non-Imperial doing dirty business on Imperial territory, but protected by a planetary government. Pirates make extremely good targets for setups, especially if they have maintained their protection by pretending to be Robin Hoods or freedom fighters.

Since the Inspector's team works for the SPA, and at a high level, obtaining detailed starport plans and personnel lists should be no problem. They should not, however, have access to vast quantities of detailed data, and in most cases should have only a vague idea of who the culprits might be, and no solid idea of (for instance) how the illicit weapons are being moved through the port.

The use of gadgets is a matter of taste, but as noted earlier, gadgets should not replace skills and roleplaying. If used at all, a gadget should make an impossible *task just barely* possible in combination with the characters' native abilities. If a gadget shows signs of taking over the adventure, the GM should feel free to lose, break, or otherwise render it useless.

Another possibility for the GM is to create missions that are simple at the beginning, but which require improvisations on the spot due to an unforeseen accident or change of the villains' plans. This format has many more possibilities than an extremely complex plan that must succeed in every detail or collapse completely.

Players may wish to create jack-of-all-trades characters, or a set of specialists to be chosen among according to the needs of the mission.

THE INSPECTORATE CAMPAIGN (PART 2)

"So, do you Inspectorate guys do anything besides black-budget undercover work?"

"You must be mistaken. We don't do undercover work."

While secret investigations are thrilling, they aren't really the Inspectorate's day job. Most starport inspections are just that - making sure the doors work, the airlocks are tight, the toilets flush, and the commissary food will not actually kill anybody.

Conventional inspections, with or without white gloves and hospital comers, are not all that interesting from a gaming viewpoint (or, to be honest, any viewpoint), unless they accidentally uncover Larger Dark Doings. If they *always* lead to bigger things, they become a tedious delaying of the real action, but running a locker check *without* some excitement at the end will be unpopular with most gamers.

This does not mean that mundane inspection is useless in adventures. If the stand-to includes a sufficient amount of clue-dropping (real and fake), and character interaction, getting the team familiar with the (future) suspects and general situation, then when the procurement officer's body is found inside the container of frozen yogurt cups, they have leads to follow, and the action doesn't have to be stopped for a long info dump.

Of course, the inspection might be the cover for a more serious investigation . . . focused deliberately away from the real suspects, perhaps handled sloppily, in order to put the crooks off guard. "Look, if we don't move the stuff tonight we lose 200K, and these clowns couldn't find it if we painted it red. I say we go."

The other part of the "public side" of the Inspectorate is forensic investigation. When something seriously bad happens at a starport - a major fire, a structure collapse, and always a vessel crash with loss of life - the nearest available team is moved to the scene, to determine what happened, why it happened, and how it can be prevented from happening again. In this regard, an Inspectorate campaign overlaps in places with a Directorate campaign.

This is not a job for people who want to be friends with everyone. A major crash is usually the result of a web of intersecting events: Remove one element and maybe the crash does not happen. Attached to each of these related events is a responsibility, sometimes human. The people attached to the responsibilities have strong reasons to minimize their own contribution, usually in favor of someone else's. The traffic controller blames the pilot, the pilot blames the engineer, the engineer blames the ground crew, the crew pins it on the parts supplier, and so on, sometimes achieving perpetual motion. Jobs, insurance rates, legal indemnity, and sometimes criminal prosecution hang on the outcome.

For their part, the crash investigators are trying to determine, scientifically and objectively, the causes and how much each contributed. They have no percentage in pinning guilt on any specific person or group, but that is usually a consequence of what they do.

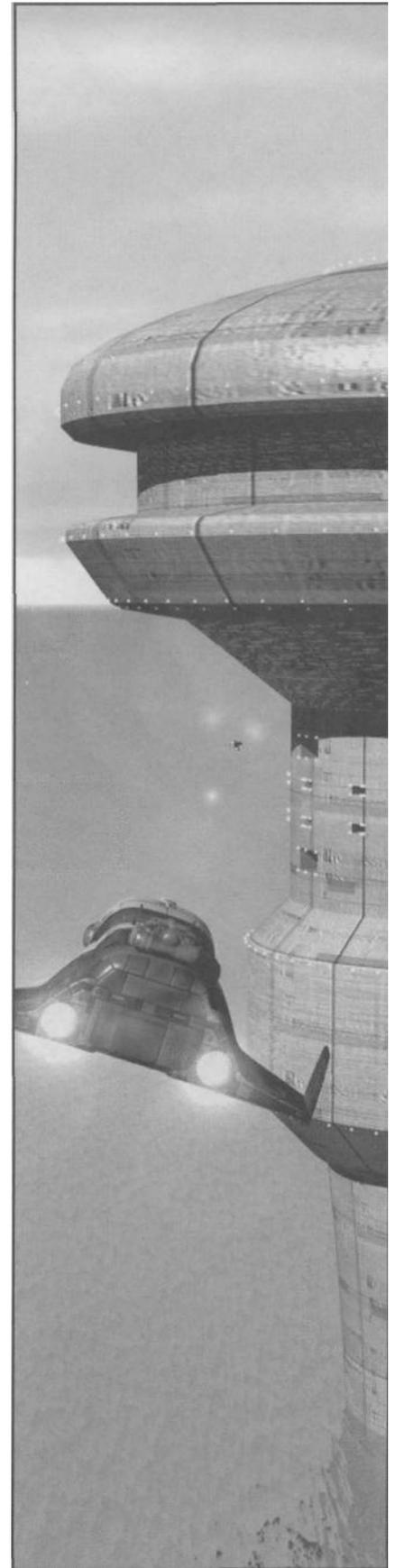
CORPORATE ESPIONAGE CAMPAIGNS

By now, it should be clear that Starports can be the site of a lot of exciting action, even if much of it occurs behind the scenes. Indeed, covert activity can be quite commonplace. Another possibility to consider is a game centered on corporate intrigue.

Consider that most megacorporations, and quite a few smaller businesses, possess their own internal security agencies. A good example of this is Tukera Lines. Tukera possesses an internal security agency known as the Vemene. Officially, the Vemene's mission is to thwart piracy, hijacking, theft, and sabotage against Tukera's ships and planetary installations. However, the megacorp has many critics who charge that the Vemene's real mission is to suppress competition by any means necessary, legal or illegal.

Naturally, corporations have a strong interest in seeing their markets furthered at the expense of their competitors. Starports are thus a likely site for some of these efforts, whether covert or overt. This is especially true for those corporations that derive much of their business from freight and passenger transport.

In the Spinward Marches, for example, Akerut, a subsidiary of Tukera, had been involved in a trade war for years with the much smaller Oberlindes Lines. This war did involve the use of covert agents, although the details are not generally available. In any event, GMs should bear in mind the potential inherent in such a conflict, as well as its ability to spill over onto the starport where the player characters are based.



USING STARPORTS IN OTHER CAMPAIGNS

Most of this chapter has assumed that a starport will be used as the primary setting of a campaign. This need not be the case. For many travelers, Starports play a significant role in their lives without being their primary abodes. Merchants and other spacers spend a good amount of their time in Starports. As such, there are many ways for a GM to use the information in this book to enrich a game not based at a single starport.

AN EXCITING BACKDROP

A good metaphor to consider when using a starport is to think of an old Earth commercial seaport. Starports generally move more cargo than people, just like seaports do. Likewise, much of the ambience and flavor that Starports possess is derived from seaports. Take Startown, for instance. It is clearly an extrapolation of the seedy wharfside establishments that used to grow up around seaports. Shady merchants and surly longshoremen, along with off-duty naval officers, populate this locale.

If a GM is ever in need of adventure ideas, he can easily turn to novels and films that employ seaports as their setting. There is no need for the starport to dominate an adventure, but there are things that only a starport can provide. GMs should never be afraid to use them.

At the same time, Starports do possess several characteristics of 21st century airports as well. For example, Starports are a lot like 21st century airports in that one spends a great deal of time waiting in them. Given this, Starports are a convenient place for a large number of people from a great many diverse backgrounds to be forced together in one place. If the GM ever needs an excuse for down-on-their-luck travelers to encounter a wealthy Imperial noble, the starport provides it.

Likewise, the fact that so many people must wait in it every day means that their luggage and valuables will often be stored there for brief periods. In some cases, these valuables may be of interest to less than reputable characters. The theft of these items can form the basis for an enjoyable adventure.

One should not forget the ever-popular terrorist and hijacking scenarios. These are staples of action films that use airports as settings. Starports should be no different, except that any terrorist who gets past starport security will have to be extremely skilled and well armed.

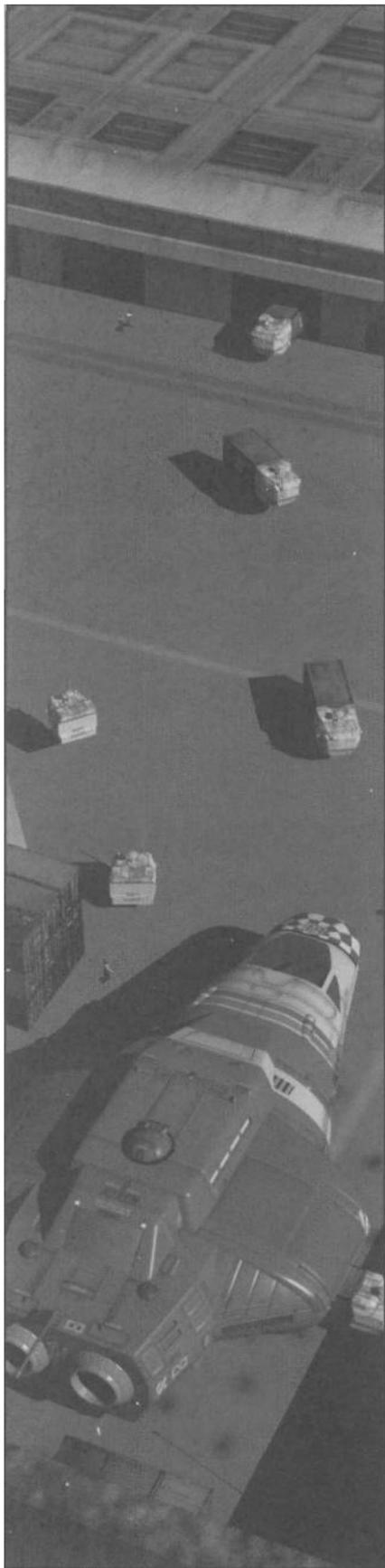
The important thing to bear in mind is that Starports are unusual locales. To employ a starport effectively in a *Traveller* adventure requires that a GM think carefully about what it is that a starport offers that no other locale can. Once he has done this, he will have gone a long way toward making it a memorable place.

VARIETY IS THE SPICE OF LIFE

Another obvious way to make Starports interesting is to take to heart some of the suggestions made earlier about dealing with the locals. Each starport should have a different character, a different flavor, that sets it apart from others. In a merchant campaign, for instance, there will undoubtedly be favorite ports of call. For whatever reason, the characters will return to certain worlds repeatedly. If this is so, a GM would be well-advised to detail those ports, using some of the information included here.

With so many worlds in the Third Imperium, few of them get much detail, especially in a campaign that involves extensive star travel. This is understandable, but unfortunate. A quick look through a supplement like *Behind the Claw* reveals only a small portion of the diversity that can be found within only a single sector.

With that in mind, every effort should be made to make Credo Down on Regina, a populous administrative center, feel different from the starport on Hefry, a colonial outback, just one jump away. The personality of its host planet will permeate a starport at least as much as does the "vanilla" flavoring provided by the Imperial Starport Authority's uniform administration of its facilities.



Appendix A: Equipment

The following pages illustrate many of the starships, small craft, and surface vehicles encountered at Starports, as well as samples of the equipment used at these installations,

and the component modules used to build a starport in Chapter 5, *Starport Design*. Some of these may be of use in other campaigns.

TL10 MERCY-CLASS 100-TON RESCUE VESSEL

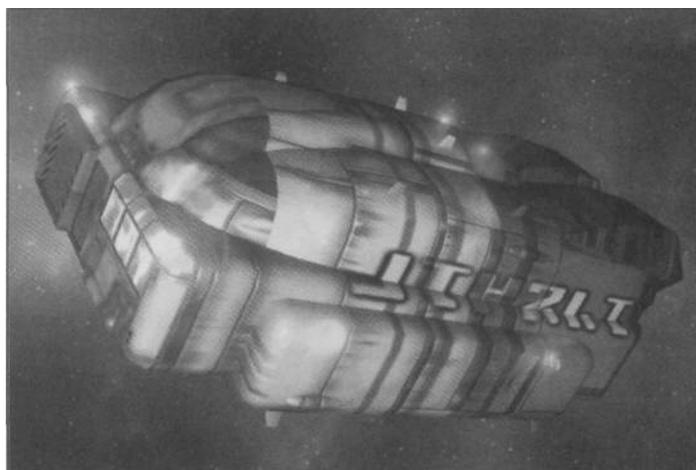
This medical evacuation and rescue non-starship is designed to arrive at an accident scene and take survivors (up to 76) off stricken vessels or, if too late for that, search the vicinity for persons that may have fled the ship in vacc suits or rescue balls.

A command bridge may seem unusual on a craft of this size, but the extra sensor and communications equipment is needed for thorough searches.

Most of the multiple sickbays replace the operating and diagnostic tables with beds for cases that can survive without an automed; these provide room for 20 patients in the automeds, 40 total. Up to 20 more can be placed in the low berths. The bunkroom provides space and life support for up to 16 walking wounded.

Cargo space is used for rescue and medical/life support gear, such as two LSCs (see below).

- **Crew:** Captain/pilot, copilot/navigator, 2 sensor/commo operators, 2 engineers, medic, and flight surgeon.
- **Design:** 100-dton USL Hull, DR 100, 1 Command Bridge, 1 Engineering, 60 Maneuver, 5 Low Berths (capacity 20), 4 Staterooms, 1 Bunkroom, 10 Sickbay, 1 Utility, 0.5 Cargo.
- **Statistics:** EMass 332, LMass 334, Cost: MCr23.8, HP: 15,000. Size Modifier: +8.
- **Performance:** Accel 7.18 Gs.



LIFE SUPPORT CARRIERS

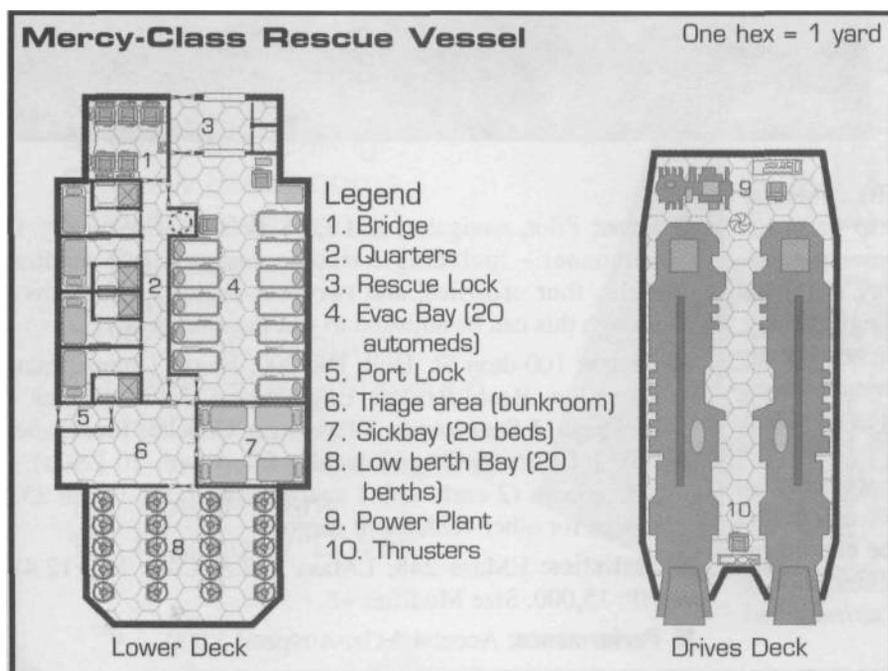
These are rigid-frame stretchers with integral Life Support units (see *GURPS Vehicles*, p. 68). An LSC is not an automed, and no HT is restored by its life-support equipment; the LCS simply keeps the patient from losing further HT until a proper medical facility is reached, and makes transport much simpler.

LSCs have folding legs with wheels to serve as field cots or gurneys, or when aboard a vehicle lock two-high into vertical racks. The racks may be permanently installed (as in a medevac vehicle) or temporarily fitted in any cargo space, using existing cargo attachment points. Four racked LSCs take up one cargo space (including an access aisle).

The life-support unit runs on a B cell for several days of continuous use, or consumes 0.1 kW when connected to line power. An LCS unit weighs 150 lbs., takes up 75 cf (0.15 starship spaces) when not in use, and costs Cr7,500.

LSC ACCESSORIES

The LSC frame has a slot to accept a grav lifter module, allowing the unit to float about a meter above ground. The lifter is "null-biased": if not continuously pushed (as when the attendant loses his grip or is disabled), it will come to a stop in three or four feet. Load limit is about 500 lbs. (including the weight of the LSC). The module runs for one week (continuous) on a B cell. It is TL10, weighs 5 lbs. (switched off), and costs Cr200.



A ballistic "flak cover" is also available; this can be stored in a roll under the stretcher and opens into a half-cylinder protective tent. It has PD 2 and DR 4. The ballistic cover is standard on military-issue LSCs. TL7, weight 5 lbs., and Cr200.

ISOLATOR LSC

This is a fully encapsulated LSC for evacuees with highly contagious diseases. It has a closed-cycle air system (cartridges must be replaced every 48 hours), maintaining a slight negative pressure to contain pathogens if the capsule is cracked or punctured. Side-mounted "glove-box" gauntlets allow access by medical staff, and a small airlock can pass food, instruments, specimens, etc. It is TL10, weighs 250 lbs., and costs Cr10,000.

BURN CARRIER

Another modification of the LSC, for severely burned victims (more than 15% of body area burned - in game terms, more than one-sixth of HT lost to burns). It is encapsulated, like the isolator, but maintains a slight positive pressure to expel pathogens - burn patients are extremely susceptible to infection. Its key feature is an elliptical-field grav plate that floats the patient in the center of the capsule. (Note that the plate does not lift the LSC itself; a lifter module is still required.)

Statistics are the same as for the isolator version.

TL10 BLAKEWAY-CLASS 100-TON FIRST RESPONSE VESSEL

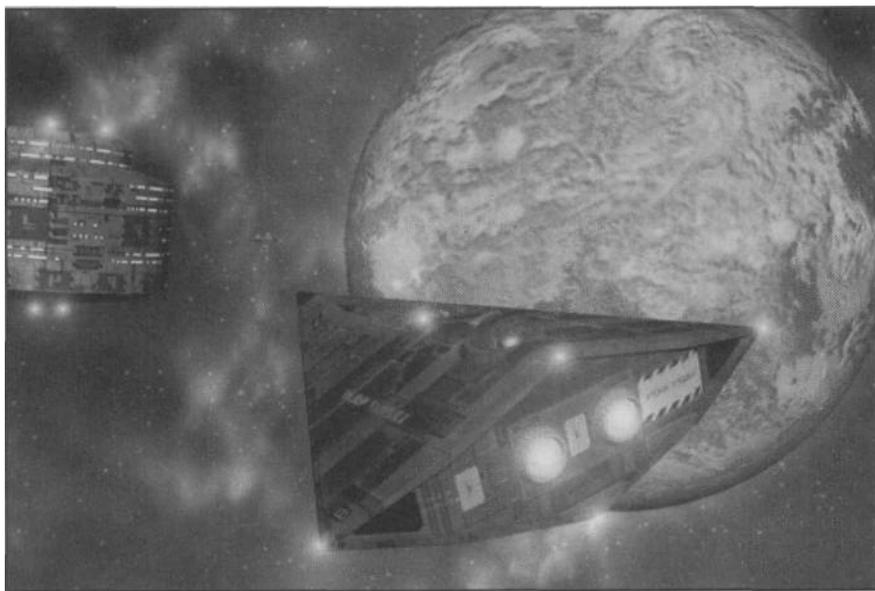
The *Blakeway*, built on the ubiquitous scout/courier hull, is intended as a "first responder" emergency vessel: Its primary tasks are to rescue passengers and crew from a vessel in distress, and, when possible, prevent the crisis from worsening. It is not jump-capable, trading the space for a lot of maneuver thrust. With crew and rescue equipment aboard, it can pull more than 4 Gs. This power also allows it to act as an emergency space tug, towing vessels several times its own mass with ventral and stern grapples.

Within, there are two operating rooms equipped for trauma surgery. Victims triaged as not requiring immediate surgery go into one of the six automeds or the racked Life Support Carriers (see above). There are 36 passenger couches for evacuees with no or minor injuries. The ship is not intended for long endurance; the four double staterooms allow crew members to take short breaks during extended operations, and can be used as extra patient beds.

The ship's configuration is unusual. The M-drives are mounted on the upper deck, leaving the main deck clear to the aft bulkhead. This bulkhead is fitted with three drop-down doors. The outermost pair (10' wide) dock air/rafts while the 20' wide center door allows unrestricted access to the main deck. Standard lifeboats can be moved inside, allowing transfer of passengers in normal atmosphere and gravity. All three doors have extension panels for use as boarding ramps; they may also be locked in a horizontal position. When horizontal, they shelter the space underneath; with the addition of drapes or lightweight side panels, this space can be used as an office or field hospital.

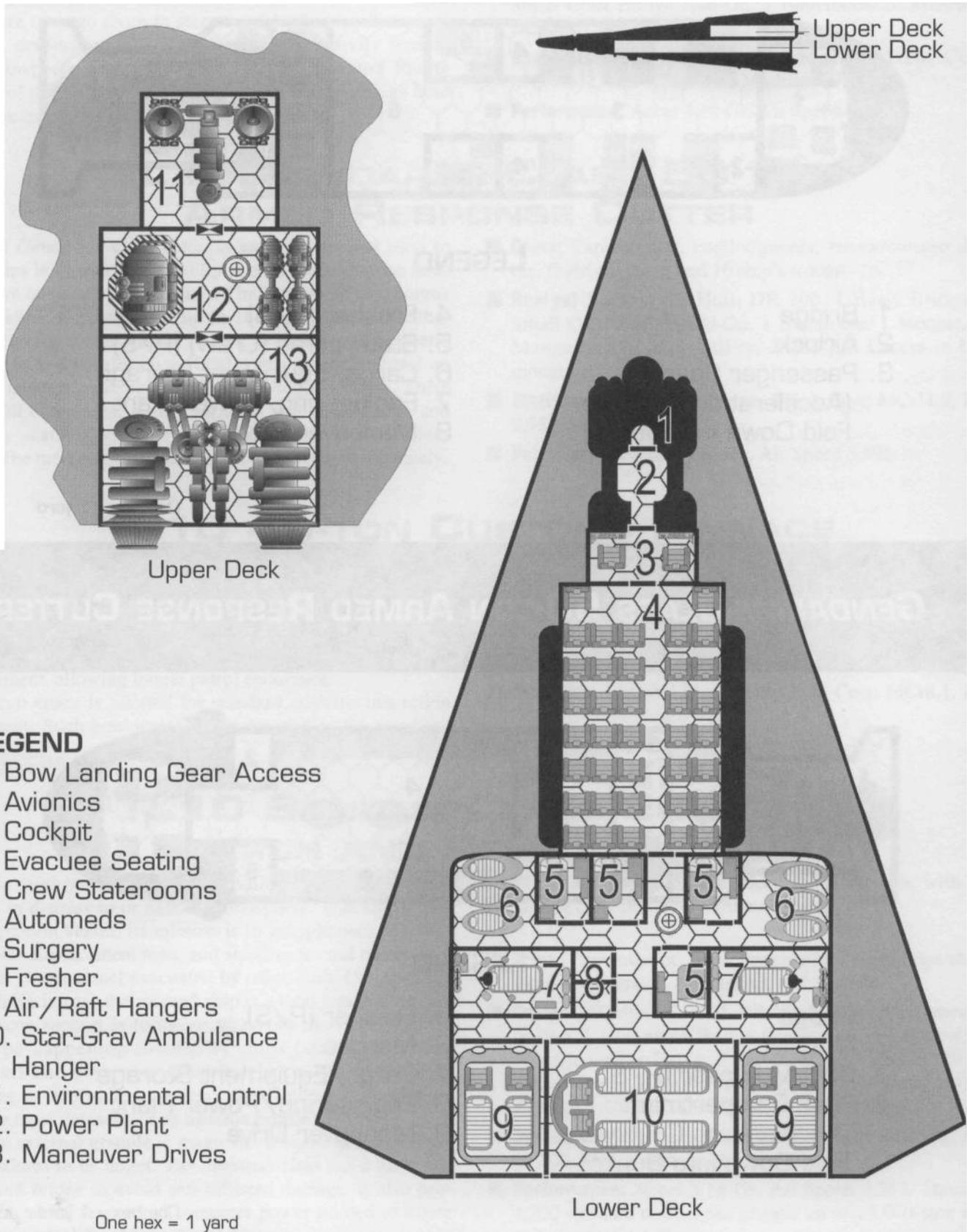
General-purpose emergency equipment is kept aboard at all times; additional racks are stored in the ship's ready berth. A grav ambulance or an ATV-style vehicle can be carried on the lower deck; note that when the maindeck center door is lowered as a ramp, only short vehicles such as air/rafts and ground cars can leave the garage.

No weapons are mounted. Some *Blakeway* conversions — rebuilds from surplus *Suleiman* hulls - retain the turret and a single laser, officially for use as a cutting torch. This is counted against the main spacedock space.

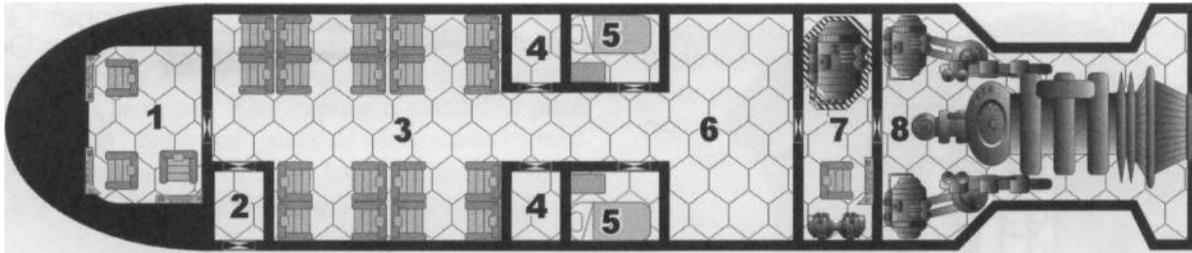


- **Crew:** Pilot, navigator, and EMS personnel (typically 15 personnel - including a trauma surgeon, two medical techs, four orderlies, and two four-person CFR teams - though this can be adjusted to suit the emergency).
- **Design:** 100-dton SL Hull, DR 200, Heavy Compartmentalization, Basic Bridge, Engineering, 30 Maneuver, 2 Sickbays, 4 Staterooms, 3 Passenger Couches (occupancy 36), 1 Utility, 5 Cargo (usually filled with 20 LSCs), 3 Spacedocks (2 each with 1 space for air/rafts, 1 with 25.5 spaces for other vehicles or cargo).
- **Statistics:** EMass 248, LMass 272.8, Cost: MCr12.48, HP: 15,000. Size Modifier +8.
- **Performance:** Accel 4.4 Gs, Airspeed 3,000.

BLAKEWAY-CUKSS 1 00-TON FIRST RESPONSE VESSEL



DOUANE-CLASS 50-TON CUSTOMS CUTTER

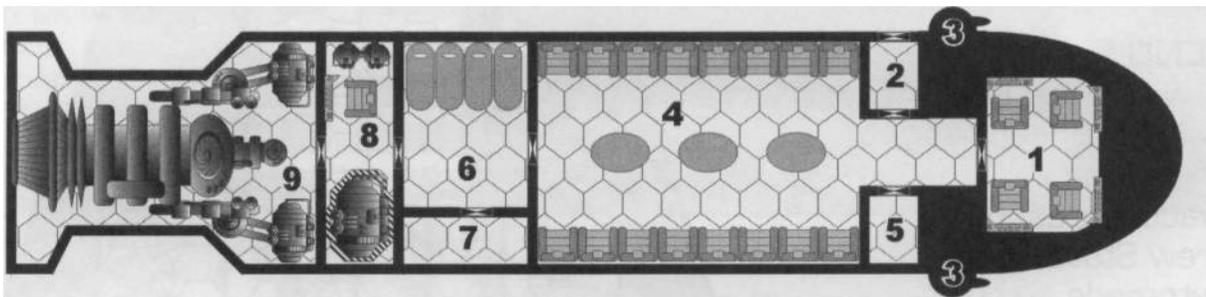


LEGEND

- | | |
|--|----------------------------|
| 1. Bridge | 4. Fresher (P/S) |
| 2. Airlock | 5. Staterooms (Crew) (P/S) |
| 3. Passenger Space
(Acceleration Couches
Fold Down Into Bunks) | 6. Cargo/Equipment Storage |
| | 7. Engineering/Power Plant |
| | 8. Maneuver Drive |

One hex = 1 yard

GENDARME-CLASS 50-TON ARMED RESPONSE CUTTER



LEGEND

- | | |
|---|----------------------------|
| 1. Bridge | 5. Fresher (P/S) |
| 2. Airlock | 6. Morgue |
| 3. 350 MJ Laser (P/S) | 7. Cargo/Equipment Storage |
| 4. Bunk Compartment
(Acceleration Couches
Fold Down Into Bunks) | 8. Engineering/Power Plant |
| | 9. Maneuver Drive |

One hex = 1 yard

TL10 DOUANE-CLASS 50-TON CUSTOMS CUTTER

The *Douane-class* customs cutter is a standard workhorse for customs duties. It features a standard crew of three, and (cramped) room for up to 17 others, which could include port guides, inspection teams, etc.

There is cargo room to store enough chem sniffers, bio-sniffers, densitometers, and possibly neural activity sensors for the inspection teams (depending on the Control Rating and TL of the planet). On other missions, this space can hold heavy weapons and gear for cutting open hulls . . .

Crew: Captain/pilot, sensor/commo officer, flight engineer, and up to 17 others.

Design: 50-dton SL Hull, DR 200, 1 Basic Bridge, 1 Small Craft Bridge Add-On, 1 Bunkroom, 20 Maneuver Drive, 1 Utility, 2 Staterooms, 4 Cargo.

Statistics: EMass 171.16, LMass 191.16, Cost: MCr9.032, HP: 9,750. Size Modifier +7.

Performance: Accel 4.18 Gs, Air Speed 3,038.

TL10 GENDARME-CLASS 50-TON ARMED RESPONSE CUTTER

The *Gendarme-class* cutter is an armed vessel used to seize ships in violation of local laws, or to make surprise raids on known or suspected smugglers. The bunk room and morgue are sufficient to provide for up to 16 ship's troops, in either combat armor or battledress (where available). The cutter's crew of four is usually on a 50/50 watch schedule unless on general quarters, making use of the life-support bunks. There is a small cargo area, mostly for arms and ammunition, and possibly scanner equipment as seen on the *Douane-class* above. The morgue's battledress must be purchased separately.

Crew: Captain/pilot, copilot/gunner, sensor/commo officer, flight engineer, and 16 ship's troops.

Design: 50-dton SL Hull, DR 200, 1 Basic Bridge, 1 Small Craft Bridge Add-On, 1 Bunkroom, 1 Morgue, 28 Maneuver Drive, 1 Utility, 2 350-MJ Lasers in hull mounts, 0.5 Cargo.

Statistics: EMass 240, LMass 242.4, Cost: MCr11.9, HP: 9,750. Size Modifier +7.

Performance: Accel 4.62 Gs, Air Speed 3,595.

TL10 40-TON CUSTOMS PINNACE

This is a standard factory option offered to planetary governments as a low-cost alternative to a purpose-built customs vessel. Basic similarity with the 40-dton pinnace reduces operating costs and eases maintenance.

Bunkrooms are usually set up for the four-person arrangement, allowing longer patrol endurance.

Cargo space is allotted for standard customs inspection equipment. Such equipment is not covered in the purchase price.

Crew: Captain/pilot, flight engineer, and two to six customs officers.

Design: 40-dton SL Hull, DR 100, 1 Basic Bridge, 1 Engineering, 2 Bunkrooms, 1 Utility, 18 Maneuver, 1.5 Cargo.

Statistics: EMass 125, LMass 132.5, Cost: MCr8.1, HP: 7,500. Size Modifier: +7.

Performance: Accel 5.43 Gs, Air Speed 4,647.

TL10 SIIGIIZUN-CLASS 200-TON SEARCH AND RESCUE VESSEL

The *Siigiizun* (Hero)-class is built to locate and rescue vessels in distress in or near an atmosphere. This ship is not an evacuation vessel; its mission is to grapple onto any ship up to 400 displacement tons, and stabilize it until repairs can be made or personnel evacuated by other craft. (Some space is available in case the rescued ship is a total loss and no further rescue support is forthcoming.) With most accidents of this type happening to smaller ships (since large bulk freighters and passenger liners rarely conduct wilderness refueling or atmospheric entries), the *Siigiizun* is capable of meeting most demands of its mission profile.

The external grapple is magnetic, which can lead to systems failures in its target. The *Siigiizun-class* has a hardened command bridge to avoid self-inflicted damage. It also provides the added sensor and computer power needed to locate and then control the ship in need of rescue.

The captain and copilot share the stateroom, with the remaining crew in the forward bunkroom.

- **Crew:** Captain/pilot, copilot/navigator, 2 sensor operators, 1 commo operator, 2 engineers, and 1 medic.

- **Design:** 200-dton SL Hull, DR 100, Total Compartmentalization, 1 Command Bridge (Hardened), 1 Engineering, 105 Maneuver Drive, 5 Low Berths (capacity 20), 4 Staterooms, 1 Bunkroom (up to 16 passengers), 1 Sickbay, 1 Utility, 24 External Cradle, 0.5 Cargo.

- **Statistics:** EMass 814, LMass 816.5, Cost: MCr42.2, HP: 22,500. Size Modifier: +8.

- **Performance:** Accel 5.14 Gs, Air Speed 4,583. Thrust is 4,200 standard tons; it can grapple up to a 3,000-ton ship and maintain 1.1 Gs.

TL8 HEAVY UTILITY TRUCK

The massive eight-wheeled HUT has a small two-man cab and 10'x40' bed that can accommodate a fully loaded 4A container, or four 4D containers (see pp. T:FT56-57). It supports many starport-related missions, including cargo and fueling functions. Standard cargo modules of all types usually make up its load, but a bed-mounted cargo crane is sometimes mounted to handle outsized breakbulk cargo like heavy crates or pallets.

The HUT's sealed cab has an airlock that opens to the rear (for access to habitat containers) and to the top (for access to gear stowed on the 15 sf top deck on the cab). A common piece of equipment on the top deck of the HUT's cab is a pump and hose used to move fuel from the HUT's cargo containers to a waiting ship. A heavy-duty winch is mounted on the front of the truck. A GPS and small computer help the crew load and unload cargo in a timely fashion.

- **Subassemblies:** Body with 8 off-road wheels.
- **Surface Features:** Sealed. Remote hitch with maximum load of 180 standard tons. Snow tires.
- **Drivetrain:** 500 kW all-wheel drive (HP 40).
- **Instruments and Electronics:** Medium-range communicators (100 mi); medium-range receive-only communicator (100 mi); two 0.1-mile ground-search, no-targeting "navigational" radars (BoF, BoB, Scan 5); sound system; transponder; GPS; Complexity 2 small computer and one computer terminal.
- **Miscellaneous:** Full fire-suppression system, one-man airlock, 7,000 lb. winch (BoF, HP 50, 35-yard cable).
- **Controls:** Computerized duplicate controls.
- **Accommodations:** Two roomy crewstations designated "driver" and "loadmaster." One man-day limited life support (HP 13). Seat belts, NBC kits (HP 4) and crash webs.
- **Power System:** 500 kW standard MHD turbine (HP 30, uses 100 gph H) with a 600-gallon self-sealing tank (HP 125), gives 6 hours' endurance in normal operation. A single E-cell provides accessory power (HP 2).

Access, Cargo, and Empty Space: 2.5 cf empty space in body, 26.5 cf access space, and 2,000 cf of open cargo space; 20 cf cargo space in crew area for tools and equipment.

Volume: Body 2,325 cf. Wheels 465 cf.

Surface Area: Body 1,200 sf. Wheels 400 sf.

Structure: Extra-heavy, very cheap.

Hit Points: Body 2,400. Wheels 1,200 each.

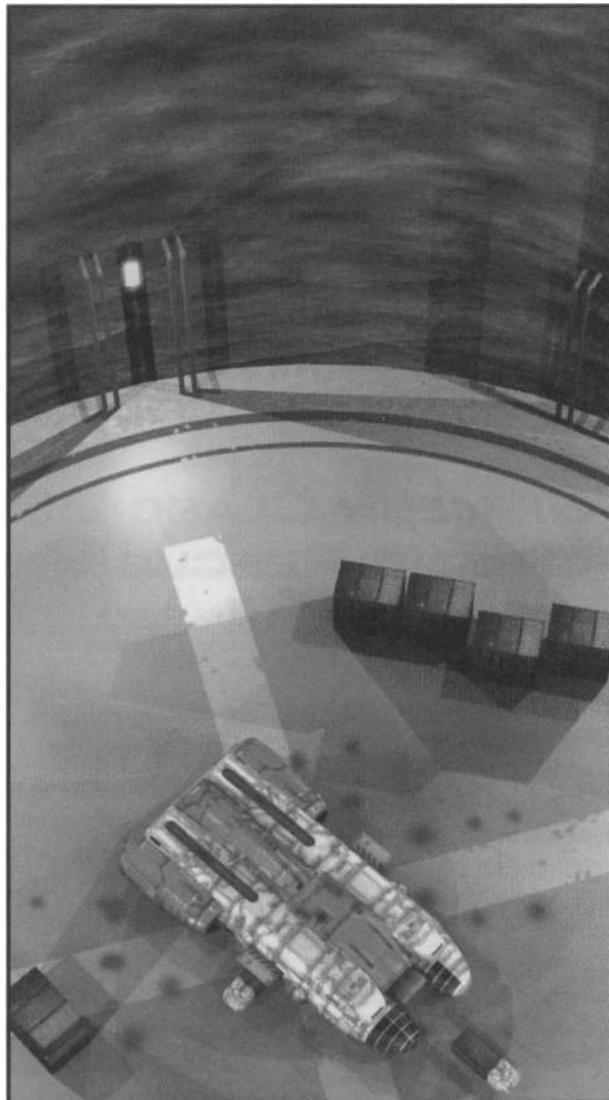
Armor: DR 10 cheap metal on all locations.

Details: Good vision, headlights, two side doors, and a top- and rear-opening airlock hatch.

Statistics: Cost Cr215,430. Ewt. 37,156 lbs. (18.5 stons), Lwt. 133,131 lbs. (66.5 stons). Size modifier +5. Structural HT 12.

Ground Performance: Max 45 mph, gAccel 2 mph/s, gDecel 15 mph/s, gMR 0.75, gSR 4, GP very high, 8 mph off-road speed.

Water Performance: Max 4 mph, wAccel 0.1 mph/s, wDecel 10 mph/s, wMR 0.25, wSR 6, draft 3.4 feet.



Variants

18-foot Crane: A crane capable of lifting 3 stons, mounted in a limited turret mounted on the cargo bed. Has a sealed, roomy crewstation in the turret for the crane operator. Add 6,190 lbs. and Cr23,350. Reduce cargo capacity by 110 cf. This means the HUT cannot carry a 4A container. It can still carry three 4D containers, or 7 dtons of breakbulk pallets and crates.

Common Containers

Maintenance Shop: A 4C container with a full-sized, complete workshop of the appropriate TL. Has 800 cf of storage space. Cr70,000, 19.5 stons, and 4 dtons.

Mini-Shop: A 4D container with a complete mini-workshop of the appropriate TL. Has 487 cf of storage space. Cr25,000, 8 stons, and 2 dtons.

Hydrogen Fuel Tank: A 4A container with 19,100 gallons of fuel. Cr106,300, 15 stons, and 8 dtons. A standard fuel pump can empty this tank in about two hours. Multiple pumps or high-speed pumps are usually used to speed fueling operations.

TL10 100-TON GRAV TRUCK

The 100-standard ton grav truck has a two-section body - a crew cab with a rugged brush-guard/push bar, and an expandable midsection cradle that can expand and retract to hold up to 100 stons of cargo in a single 4A container or multiples thereof (four 4D containers, two 4C containers, etc.). The back part of the cradle holds the thrusters and fuel tanks.

The roomy three-man cab has 48 hours of life support for all, but the 1,200-gallon hydrogen tank only lasts about two hours for the MHD turbine (if tapping into a 4A tank, this can be extended to about 48 hours for extended self-deployability). Large racks inside the cab can hold tools, vacc suits, and other gear. A top hatch over the airlock is sometimes fitted with an open mount for a water cannon, allowing the grav truck to serve as a fire and rescue vehicle.

This type of grav truck is sometimes used in a paramilitary fashion by security forces. A 4A cargo box fitted with door guns can hold about 30 men and two door gunners. A tank container and a water cannon are added for riot suppression and support, and an electrified surface keeps rioters away.

- **Subassemblies:** Body with a 100-ston external cradle.
- **Body Features:** Heavy compartmentalization, sealed, electrified surface, remote hitch with maximum load of 45 stons.
- **Propulsion:** 2x10 ton vectored TL11 standard reactionless thrusters (HP 60 each) and 2x125 ston TL13 Contragravity units (HP 12 each).
- **Instruments and Electronics:** Tenx10 LLTVs, four 1-mile searchlights on body front, two long-range communicators (50,000 mi), 4-mile radscanner (Scan 14), navigation instruments, transponder, two GPSs, terrain-following radar, two Complexity 5 minicomputers, and two computer terminals.



- **Miscellaneous:** Compact fire-suppression system, one-man airlock.
- **Controls:** Computerized duplicate controls.
- **Accommodations:** One normal crewstation designated "driver" with superior access space. Two roomy passenger seats with superior access space (fold together to make a bunk). Six man-days limited life support (HP 20) with seat belts, NBC kits, and crashwebs for all.
- **Power System:** 2,700 kW standard MHD turbine (HP 75, uses 405 gph H, plus 202 gph LOX if in closed-cycle operation) with a 1,200-gallon self-sealing tank module (HP 200, can be exchanged for any combination of smaller tanks for closed-cycle operations) gives it a 2.9-hour endurance in normal operation, and a 1.9-hour endurance in a closed-cycle operation. A single TL10 E-cell provides auxiliary power (HP 2).
- **Access, Cargo, and Empty Space:** 38.7 cf empty space in body, 92 cf access space, and 15 cf of cargo space.
- **Volume:** 1,000 cf.
- **Surface Area:** 600 sf.
- **Structure:** Extra-heavy, very cheap.
- **Hit Points:** 2,400.
- **Armor:** DR 50 standard metal on body with a DR 250 open-frame "brush guard" on front.
- **Details:** Good vision, headlights, two side doors, and a top- and rear-opening airlock hatch.
- **Statistics:** Cost Cr219,750, Ewt. 33,117 lbs. (16.5 stons), Lwt. 233,117 lbs. (116.5 stons). Size modifier +4/+6. Structural HT 10/7.
- **Aerial Performance:** Aerial Drag 600/2,600, aMax 600/340 mph, aAccel 22/3 mph/s, aDecel 14 mph/s, aMR 3.5, aSR 5, sAccel 1g/0.16g.

Variants

A fire/rescue variant adds a 10 cf open-mount (HP 20) with a 2-mile searchlight and a water cannon (4d, SS 5, Acc 10, 1/2D 80, Max 120, RoF 8*), which adds 520 lbs. and costs Cr13,000. At gross weight, a 4A70/8 tank would hold about 2,800 gallons, which is about 5,600 shots for the water cannon. A load of fire-extinguisher foam would cost about Cr2,800. Standard trucks can be converted to rescue or firefighting vehicles with custom "containerized" loadouts of the proper gear.

A security variant adds the 10 cf open mount (which can mount the searchlight and water cannon, or any other weapon that weighs less than 500 lbs.) and an electrified surface adds 140 lbs. and Cr6,100.

ADDITIONAL STARPORT EQUIPMENT

While too minor to be individually purchased or inventoried in the starship-design process, the following are items commonly found at Starports throughout the Imperium.

Any starport employee should know where to find one, and they'll often be lying about in the cargo-handling areas. Characters should be able to get their hands on most of these without much difficulty.

TL7 HAND TRUCK

A two-wheeled dolly that carries up to 1,000 lbs. or 4 cf of breakbulk product. The speed at which it can be pushed depends on the user, but the weight is normally divided by 10 or 20 (see p. B89) for encumbrance purposes. \$50, 30 lbs.

TL7 DOCK CART

A four-wheeled cart that can hold up to 4,500 lbs. or 180 cf of breakbulk product. The speed at which it can be pushed depends on the user, but the weight is normally divided as per the hand truck, above. \$100, 300 lbs.

TL10 BULK LIQUID PUMP

A rugged pump used to move liquids such as water, gasoline, milk, etc. For double cost and weight, a heavy-duty version can move cryogenic fuels. For quadruple cost and weight, increase transfer rate by 50%.

Can move 10,000 gallons per hour at a distance of up to 150 feet. Multiple pumps may be connected in-line to move a liquid a longer distance. There are usually 4-6 of these pumps operating during shipboard cargo operations. The pump's price includes a short-range communicator and a dedicated computer so operators can control the pump at a distance.

The pump with hose weighs 185 lbs., costs \$600, and takes up 5 cf. Both pump and hose have DR 5, HP 5.

The pump uses a D cell during every 12 hours of operation. It takes 15 minutes and a Freight Handling skill roll to set up.

TL10 DRY BULK AUGER

As above, but uses a screw mechanism to move bulk dry goods like beans, wheat, rice, etc. Can move about 32,000 cf of bulk product per hour at a distance of up to 50 feet. Multiple augers may be connected in-line to move a product a longer distance. These are often operating during shipboard cargo operations. The auger's price includes a short-range communicator and a dedicated computer, so operators can

control the auger at a distance. An auger with hose weighs 320 lbs., costs \$1,700, and takes up 10 cf. Both auger and hose have DR 5, HP 15.

The auger uses a D cell per 6 hours of operation. It takes 15 minutes and a Freight Handling roll to set up.

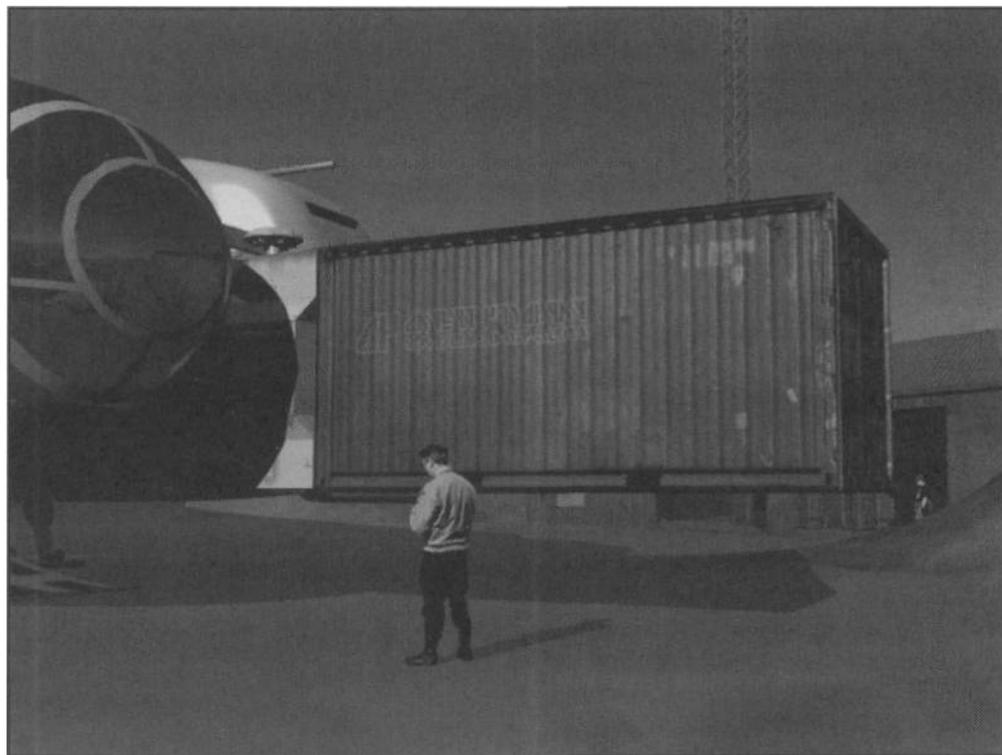
TL10 CONVEYOR BELT

A 15'x2' (or a multiple thereof) motorized conveyor belt. It can move up to 5,000 cubic feet of breakbulk or bulk product per hour. There are usually four to six of these conveyors operating during shipboard cargo operations. The conveyor's price includes a short-range communicator and a dedicated computer so operators can control it at a distance. Non-powered roller conveyors are half weight and one-tenth cost, but are obviously limited in utility.

The conveyor weighs 70 lbs., costs \$500, takes up 2 cf, and has DR 5, HP15. Uses a D-cell per 12 hours of operation.

TL10 HYDROGEN FUELING UNIT

This handy unit often supplements or replaces starship-standard fuel-processing modules for starport fuel-refining needs.



It includes a 4,000 gph fuel electrolysis unit (5 stons, 1 dton, MCr0.5), which produces 6,320 gph of hydrogen and 3,040 gph of LOX from water. It also includes a 5.6 MW fusion plant (6.6 stons, 0.58 dtons, MCr0.86). Uses one 4D55/8 container, weighs 13.1 tons, and costs MCr1.36 complete. A single 4A70/8 tank container (42 stons loaded/9.3 stons empty, and costs MCr0.1 complete) holds two hours of fuel production. A cutter can carry two HFUs and eight empty 4A70/8 fuel tanks in one trip.

STARPORT/STARSHIP COMPONENTS

Much of the following starship or small craft components will be found in use at Imperial Starports.

CUTTER/MODULAR COMPONENTS

Base Station Module: This module is designed to be carried by a standard 50-dton modular cutter (see p. GT142).

One of these modules is the minimum configuration for a Class I starport. The module contains three staterooms, an office module (see p. 104), and a power/control room containing a fusion power supply, controls for landing lights and other external equipment, and a transmitter. It has unlimited endurance as long as food stores hold out. The general manager has single-occupancy quarters; any other officers take single or double as required. Unused staterooms are used for additional storage, and one may be removed for more living/working space. The other is usually retained for use by "visiting firemen" (scouts, couriers, and so on).

- **Crew:** None in flight. At least one in ground service.
- **Design:** 30-dton SL Hull, DR 100. Modules, 1 Basic Bridge, 1 Engineering, 4.5 Cargo.
- **Statistics:** EMass 47, LMass 70, Cost: MCr4.9, HP: 6,000. Size Modifier: +7.
- **Performance:** When attached to modular cutter, Accel 3.3 Gs, Air Speed 2,353.

HABITAT MODULES

In addition to Starports, some large vessels (such as colony ships and space stations) contain large urban or green areas inside them. Each module described below is about the size of a city block and includes lighting, temperature control, air recycling, and a "slice" of power plant.

Housing

This module contains one or more apartment buildings or a few dozen houses, plus grounds, walkways, etc., providing long-term accommodation for up to 100 people (half that many in luxury, twice that many in cramped conditions).

Factory

A large industrial park, capable of operating efficiently with a few dozen workers or robots. Contains warehouses, minifacs, etc.

Farm

An acre or so of open space with a few buildings devoted to agriculture and food processing. Up to 10 people or robots can work it effectively; each worker can grow food to feed 10 people. Using crop rotation, the farm can serve as total life support (providing air, food, and water) for about 100 people.

Park

A landscaped green space, possibly with entertainment or exercise facilities (pool, stream, swings, etc.). In a pinch, it can provide camp grounds for about 100 people.

Plaza

A mall or concourse area, with about a dozen medium establishments, plus open space for several hundred people to congregate.

TL	Module	Space	Mass	Cost (MCr)
10+	Farm	10,000	20,000	0.5
10+	Factory	10,000	50,000	10.1
10+	Housing	10,000	40,000	1.0
10+	Park	10,000	20,000	0.2
10+	Plaza	10,000	30,000	1.0

Editor's Note: The habitat modules are based upon those in *GURPS Space*, pp. 124-125. The above include "power-plant slices" to make them conform to *GURPS Traveller* needs, however. The relatively tiny increase in mass has been ignored, and the equally small volume requirements are assumed to be taken from existing access space. The cost of power requirements has been added where it applies.

STANDARD MODULES

Brig: This is an ordinary stateroom equipped with reinforced walls and door (DR 200), restraints, and a high-security alarm and observation system. It normally holds 1-2 people. Up to 50 could be crammed in for a limited time, but this will overwhelm the two-person life support. A ship or starport with one or two brigs usually will monitor them from the bridge. A larger number of brigs probably will have its own dedicated security station.

Bunkroom: Bunks for 16 personnel, with life support, under very cramped conditions. Imperial protocol is to load only four passengers per bunkroom, except for missions of very short duration or emergencies.

Communications: A scout-base staple, this TL12 module contains a single massive laser communicator, with 10 million miles transmission range and 10 times that in reception. There are three hardened, high-capacity mainframe computers, 50 terabytes of hardened data storage with double backups, and an energy bank with five hours operational capacity. The module is designed for high redundancy, with the three computers all checking the others' results and the three sets of data stored in different locations. The laser communicator is used for its very high bandwidth. Even with the usual high level of encryption and error-correction on the signal, the module can upload or download its entire storage capacity in about an hour. The equivalent TL10 module has the same size and cost, but carries only 500 gigabytes of data.

External Cradle: These are placed on the hull of a starship or starport. Each module clamps 125 standard tons of another vehicle onto the hull. Modules can be combined to form larger cradles, or installed in 0.5-displacement ton increments for smaller versions. Vehicles carried this way aren't counted against the ship's internal spaces, but must still be included in any jump-drive requirements. They are not protected by the ship's armor.

Hall, Bar, or Conference Room: A large room with tables. Usable as a restaurant, bar, conference room, etc. It can comfortably accommodate 100 people per module (smaller lounges and conference rooms are included in state-room volume). Weight and cost include furnishings.

Information Center: A TL12 high-tech military-style operations room for 10-20 people, this is often found in Imperial Navy Starports. Has workstations, a sophisticated array of electronic mapping and display tables (which function as a fire direction center), plus several dozen digital cameras for video teleconferencing. The module also includes a hardened Complexity 8 macroframe computer and 10 terminals for running high-end analysis programs like Expert (Tactics), Transmission Profiling, and Traffic Analysis.

Morgue: This includes space for 20 sets of battledress and accessories such as flight packs, with room for maintenance and loading.

Office: Each office module holds four offices, with room for three visitors each, or 16 cubicles with no room for visitors. Includes full life-support for 16 and space for conference rooms, office-supply storage, etc.

Small-Craft Bridge Add-On: This module can be used *instead* of an engineering module on craft equipped with a

basic bridge. Includes fusion-power startup, full life support for five, and a two-main airlock. The TL12 version also includes one bunk.

Stage: A 20'x20' stage area with high ceilings, usable for dancing, plays, nightclub acts, and so on. Includes sophisticated lighting and sound systems. Normally attached to a hall or theater containing the audience.

Swimming Pool: Starports and large commercial ships will often have swimming pools. Includes 100 sf of pool (10' deep), 100 sf of deck area, and overhead clearance. Multiple modules can be combined to make larger pools. Finished design should add one spacedock module per complete pool, to contain the water in case of loss of artificial gravity.

Theater: A small auditorium with 100 roomy seats for the audience, a large holoprojector, and an operator's workstation. Can be used for entertainment, for presentations, or as a briefing or situation room. The holoprojector can be stowed, if desired, but a stage is not included.

Traffic Control: This module contains four sets of astronomical instruments, four high-resolution planetary survey arrays, a mainframe computer, eight roomy crew stations with computer terminals, and a "traffic center" with sophisticated holographic-projection devices. This allows the traffic controllers to create visualizations of incoming data.

MODULE TABLE

Type of Module	Spaces	Mass	Cost (MCr)	Crew
Brig (1-2 occupants)				
TL10	4	11.4	0.052	†
TL12	4	5.6	0.03	†
Bunkroom				
TL10	4	4.8	0.018	0
TL12	4	1.92	0.018	0
Communications	12	138.1	3.83	0-1
External Cradle	1*	12.5*	0.25*	0
Hall, Bar, Conference	10	0.2	0.003	†
Information Center	4	3	2.8	10-20
Morgue	1	28.75	0	0
Office				
TL10	4	3.54	0.018	†
TL12	4	1.92	0.009	†
Small-Craft Bridge Add-On				
TL 10	0.5	1.96	0.32	0
TL 12	0.5	1.4	0.16	0
Stage	16	0.5	0.004	†
Swimming Pool	6	27/1.5**	0.031	†
Theater	20	2.1	0.015	†
Traffic Control				
TL10	4	7.4	12.66	4-8
TL12	4	5.4	7.63	4-8

* per 125 standard tons of ship to be carried. External cradles count against the turret-mounted weapons limit at a rate of 3 modules per 1 turret.

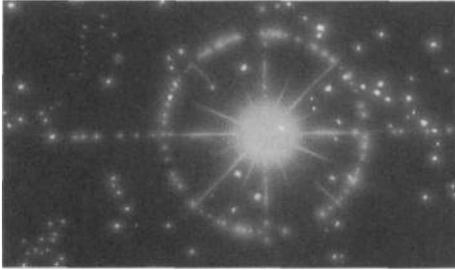
** First figure is filled mass; second is empty. Should have 1 spacedock module per pool module in highport or starship.

† varies and/or GM's discretion. Many of these modules are passenger services, and usually the GM can safely rule that a ship's standard complement of stewards fulfills the crew needs. (For instance, a passenger liner with a swimming pool will require a lifeguard, but those swimmers would be requesting some other service if they weren't swimming. In terms of personnel needs, it's a wash.) In other circumstances, bartenders, actors, and such will need to be added to the standard ship's personnel, particularly on ships that normally carry only a handful of stewards.



Appendix B: Port Samples

Map keys for the various floor plans and layouts in this appendix have been provided separately from the plans themselves, as well as other information the GM may want to retain. This is to permit GMs to copy and hand out the plans to players without revealing anything they wish to keep secret, and allows altering the keys if desired.



GRANIFF FIELD (P. 109)

Located on Raydrad/Trin's Veil, Graniff Field is named after a local geographic feature (the Graniff Plains). The field is situated near a ground railroad system (1) in order to facilitate transfer of ricernay (a local liquor) to waiting ships. Ricernay has become an increasingly popular export to many worlds in the Marches, fueling a potential upgrade to Class II. While Graniff Field has no fuel depot, a river is two miles to the south.

Key

1. Railroad
2. Warehouse
3. Railway Station
4. Starport Office
5. Landing Field

SMALL TOWER

This depicts a simple structure commonly found at smaller installations such as Class II and III Starports and planetary airfields.

Key

1. Lobby
2. Map/Conference room
3. Office
4. Front Desk
5. Fresher
6. Control Tower

SPACE CONTROL CENTER

This is a larger, more advanced traffic control center, capable of directing all traffic within 100 AUs.

Key

1. Entrance
2. Freshers
3. Office(s)
4. Conference Room(s)
5. Map Room
6. Computer Room
7. Break Room
8. Security Station
9. Advisory Zone Control
10. Transition Zone Control
11. Orbital Zone Control

RECH (P. 110)

Ships are forbidden to land on Rech/Lanth unless tornado-rated (this requires streamlining, heavy or total compartmentalization, and an Accel of 3 Gs or better) and the pilot has storm experience (assume this requires skill 16+ *and* previous experience with storms). Vessels dock with the highport, and transfer their passengers and cargo to the underground downport via shuttles. These shuttles are not SPA small craft; they are owned and crewed by locals, who charge a fair fee. The interior of Rech downport is quite beautiful; the rock walls incorporate specks of iridescent crystal, which create quite an attractive display even when not specially lit. In the center of the downport is a large underground garden, a place of serenity on this chaotic world.

Underground maglev railroads (10) provide connections with other cities.

Key

1. Standard Berths
2. Small Berths
3. Large Berths
4. Surface Control Center
5. Fuel Storage
6. Geothermal Tap
7. Offices and Control Centers
8. Underground Garden
9. Residences and Retail
10. Subsurface Maglev Station

DHIAN (P. 111)

Dhian/Aramis has a tightly controlled population. The local government keeps citizens in line by strictly regulating the use of atmosphere in the domed cities. It also maintains a strong garrison around the extrality line. People leaving the starport are warned to follow all local laws to the letter and to keep their affairs in order - more than one visitor has found his travels interrupted due to an atmosphere debt or other minor infraction on Dhian.

Key

1. Auxiliary Landing Field
2. Starport Control
3. Small Berths
4. Medium Berths
5. Large Berths
6. Fuel Depot
7. Cargo Warehouses
8. Kelso's Charters
9. Emergency Services Building
10. Shuttle Tarmac
11. Dhian Ship Servicing, Inc.
12. Passenger Concourse
13. Starport Offices
14. Commercial Center
15. Dhian Down Hotel
16. Startown

ALELL GRANDE DOWNPORT (PP. 112-113)

Recently ravaged by the Fifth Frontier War, Alell/Regina is attempting to jump-start its economy and restore confidence in the government by encouraging tourism and an entertainment industry. The government intends to turn Alell into the resort center of the Regina subsector. It has spent huge amounts of money to subsidize SPA downport repairs and a new highport. Both locations are filled with hotels, casinos, sport arenas, and other forms of entertainment. Some experts are unsure whether Alell can return a profit. Should the government fail to restore the prewar economy, dissatisfaction is sure to increase. For a port which has not yet recovered from war damage, see Fyrandil, pp. 118-119.

Key

1. Freight Control Center
2. Freight Landing Pads
3. Oberlindes Freight Complex
4. General Warehouse District
5. Customs Secure Warehouse
6. Mell Freight and Charters, LIC
7. Freight District
8. Yard 21 (Shipyards)
9. Alell Imperial Financial Center
10. The Majestic Hotel
11. Commercial District
12. Alell Tourism Board
13. Grav-Ball Arena
14. Poni Tracks
15. Marina and Docks
16. Passenger Berths and Terminal
17. Passenger Concourse
18. Utopia Hotel and Casino
19. Heaven's Tower Hotel
20. Residential/Entertainment

ALELL GRANDE HIGH TERMINAL (P. 114)

The Alell Grande High Terminal often is hailed as the best example of the latest architectural trends in highport design. The highport also is far larger than its traffic flow would currently dictate, due to local pressure for expansion (see the downport description, above). Traffic controllers complain that their lines of sight are poor, though no mishap has been attributed to this yet.

MORA IMPERIAL HIGHPORT (P. 115)

A monstrous structure receiving millions of visitors from across the sector, Mora highport can be a nightmare assignment for SPA security personnel. Veteran employees still get lost in its endless corridors.

MORA IMPERIAL DOWNPORT (PP. 116-117)

This beautiful water world is home to the Duchess Delphine and the seat of Archduke Norris, and thus serves as both ducal and archducal capital. Representatives from every government, megacorporation, race, and religion can be found on Mora/Mora, trying to influ-

ence the politics of the Marches. The starport is one of the largest and busiest in the Imperium.

Since Mora is a water world, the majority of the population lives in arcologies - massive buildings that are entire cities themselves. Mora downport is no exception - many of its buildings are island communities that have docking areas in addition to the "official" landing areas. A great portion of the downport is devoted to the diplomatic district, in the shadow of Norris' palace. Ambassadors from all the major races and most of the domain of Deneb can be found here.

The *Kig'reel!* gardens, constructed by the K'kree delegation, is a popular spot for tourists. A favorite party spot in the port is the Vargr district (things sometimes get out of hand).

Recently there has been a small amount of friction between natives loyal to Duchess Delphine and "Impies" with the archduke's retinue. There have been no serious altercations ... yet.

Key

1. North Landing Fields (primarily freight and diplomatic traffic)
2. Recycling Facilities
3. Warehouse District
4. DTI Downport
5. DTI Warehouses
6. Residential District
7. Primus Arcology (primary home for permanent residents)
8. Sapphire Lake
9. Ducal Landing Berths
10. Ducal Palace and Grounds
11. Business District
12. Diplomatic District
13. Starport Central Offices Tower
14. Onyx Arcology
15. Ling Standard Shipyards
16. Industrial District
17. Naasirka Manufacturing
18. Al Morai Office Complex
19. Breakwater Mount and Hydro-electric Plant
20. Marina and Docks
21. Submersible Docks
22. Marina Warehouses
23. South Landing Fields (primarily passenger traffic)
24. Twins Arcology (hotels and shopping centers)
25. Breakwater
26. Recreational Area/Park

FYRANDIL (PP. 118-119)

Prior to the Fifth Frontier War, Louzy/Jewell's Class III starport was used primarily for foodstuff imports and metal exports. Louzy's low temperatures and atmosphere require sealed environments. The atmosphere is not dangerous in the short term, but can cause a condition similar to nitrogen narcosis upon prolonged exposure.

The large buildings slightly east of center are the warehouses. The large circular sections in the middle are the fuel depot. The pads to the west are merchant/general purpose pads. The eight hex-shaped pads to the northwest are the SDB bays of the local system defense base. The large area to the northeast is the shipyard/repair area. The large circular section to the southeast is the residential dome.

The Zhodani planned to capture Louzy and use it as an advanced staging area for the siege of Efate. Since Louzy has no gas giants, the fuel depot was critical to this plan. The local SDB squadron refused to engage the Zhodani in the initial invasion, preferring to hide within the system. These boats continued to harass the Zhodani for the entire conflict, inflicting severe damage on resupply vessels.

The assault fleet used precision meson strikes to destroy the SDB pads and local garrison post (the rounded rectangle to the upper right of the habitation dome), and crack the habitation dome. The marines were nearly wiped out.

The next phase was a teleport-aided assault by Consular Guard troops and warbots, concentrating on the fuel depot and repair yard. The battle for the fuel yard was uneventful; the defenders (mostly militia) had abandoned it. Before leaving, the depot workers sabotaged the cryonics systems (one fuel building destroyed) and refining plant. The Zhodani salvaged only one tank.

The most intense fighting occurred around the repair yard, where the militia, stiffened by what remained of the marines, made its first stand. The skill and psionics of the Consular Guard were offset by the determination of the militia and the unfamiliar weather. In the end, the tide turned against the local population, but not before significant

damage was done to the shipyard, rendering it inoperational.

A guerrilla movement and the SDBs continued to harass the Zhodani. The SDBs even acted as blockade runners - one SDB crashed into its pad trying to make a rapid touch-and-go, causing severe damage.

Louzy is currently Class II because it has no great amount of fuel available (the cryogenics and refining plants need to be rebuilt) and the shipyard is not back online. Once the pads are clear, the base will nominally be able to handle 80% of its normal traffic - it just can't refuel it. Repairs are occurring in phases:

Phase I: Repair the dome.

Phase II: Rebuild the SDB barn and garrison.

Phase III: Rebuild the fuel depot and clear the pads.

Phase IV: Repair the yard and other buildings.

Louzy does not have the resources to bootstrap itself back to Class III status, and depends on outside financial assistance, which has been slower in coming than many locals would prefer. It is expected to take nearly 10 years to complete all repairs and bring the starport back to full antebellum function.

AUTOMATED CAFETERIA (P. 120)

Establishments such as this are common in the larger Starports and surrounding startowns. The food is predictable and nourishing, if not always of the highest quality, and the dining experience leaves much to be desired. A customer enters, places an order with one of the automated waiter/clerk stations, and tenders payment in cash or by credit (precise arrangements differ, but almost every installation will at least accept Imperial currency). The meal is prepared by the robotic kitchen and sent to the automated delivery area, where the customer claims the meal. Dishes, tray, and utensils are usually disposable, and are either deposited in receptacles by departing customers or (more commonly) retrieved by the establishment's janitorial staff (robots where laws permit). Some localities require a live manager on site at all times, and an office is provided for this purpose.

Key

1. Entrance
2. Automated Food Delivery
3. Dining Areas
4. Freshers
5. Office
6. Kitchen

NEVON'S

Nevon's is a fine dining establishment on Mora/Mora, highly regarded for its seafood. While Duchess Delphine has never eaten there, Archduke Norris visited the restaurant on the advice of one of his staff members, and has become a regular. Nevon is a native Moran, and personally oversees all food purchases and preparation.

Guests enter, deposit their surplus garments at the coat check and are escorted to a table in the main dining area by a waiter from the greeters' station or directed to the bar. Nevon's has no stage or holographic projection area - Nevon feels the food and ambiance should be attractions enough.

Key

1. Entrance
2. Coat Check
3. Greeters' Station
4. Bar
5. Main Dining Room
6. Private Dining Room
7. Female Freshers/Lounge
8. Male/Neuter Freshers/Lounge
9. Office
10. Kitchen
11. Storage

HOTEL FLOOR (P. 121)

This floor portrays a typical mid-range hotel. All rooms are shown as double occupancy, but some delete one bed and substitute other furnishings. More expensive hotels incorporate other features for the convenience of their guests, ranging from restaurants and catering facilities, meeting rooms of various sizes, business communication centers, exercise centers, and entertainment.

Key

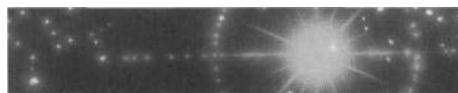
1. Lifts
2. Storage
3. Stairs
4. Room

ALIEN ENVIRONMENT SUITES

Most Starports have provision for non-human guests, who often have life-support requirements that differ from human norms. The more cosmopolitan the starport, the wider the variety of life-forms that can be accommodated.

Key

1. Lift Shafts
2. Lift Car
3. Lift Tracks
4. Standard Configurable Room
5. Large Communal Room
6. Amphibian/Aquatic Room
7. Medium Communal Room



LOW-QUALITY MOTEL (P. 122)

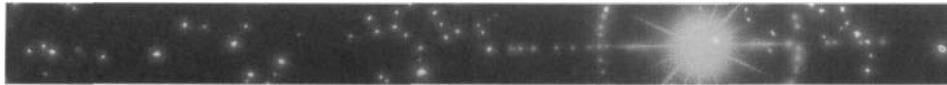
Hotels of this sort (sometimes called "motels") provide few services other than shelter and minimal amenities (such as a fast-food restaurant).

Key

1. Lobby/Front Desk
2. Office
3. Storage
4. Room

"SLOTSHOP"

Transient motels cater to travelers with little spare cash or those who prefer to catch a few hours of sleep without the expense of a real room. Each cubicle (nicknamed "slot" or "coffin" for obvious reasons) is barely large enough to house a prone human. It contains a reading light, a small entertainment panel offering a few audio/video channels, and a climate-control panel. No communications are provided, but each environmental console has a call button for summoning medical assistance. The capsules are not designed for two occupants, but those of less than average size will find it endurable for a short time, especially if no bedding is used (air quality will suffer). The capsules lock from the inside for privacy, although the manager has a master key.



A customer checks in at the front desk and pays the rental fee. In return, he receives a key for a specific "slot," and one-use bedding (mattress, pillow, and sheets) made of a special polymer. The key to the slot also opens a storage locker, where the customer places his belongings during his stay. Food, drink, and a variety of necessities are available at the vending machines. Freshers are also provided.

The customer leaves the bedding inside the cubicle on checkout. Sensors verify that the cubicle is not occupied, and it is sealed and flushed with a special solution that dissolves the bedding and sterilizes the inside. In some places, slot-shops will occupy several levels, and staircases are provided.

Key

1. Lobby
2. Vending Machines
3. Front Desk
4. Slots (stacked three high)
5. Freshers
6. Stairs
7. Storage

**BOARDING GATE
(P. 123)**

This facility and the baggage claim area (below) service vehicles that carry large numbers of passengers.

Key

1. Passenger Waiting Area
2. Check-In Desk
3. Scanners
4. Boarding Passage

BAGGAGE CLAIM

This baggage-claim area serves large liners and the like. Small merchant craft with only a few passengers have less formal arrangements.

Key

1. Baggage Carousels
2. Doors to Freight Area
3. Claim Area
4. Service Desk (rentals, hotels, etc.)
5. Service Office

Low-BERTH CENTER

This facility enables low berths to be transferred from one ship to another without reviving the inhabitants (a procedure usually limited to two ships in the same shipping line). The low-berth loaders and special-powered storage sockets keep the berths operating while awaiting transfer.

Key

1. Lobby
2. Check-In Desk
3. Office
4. Office
5. Freezing Area
6. Revival Area
7. Sickbay
8. Medical Supplies
9. Berth Sockets
10. Loader/Robot Storage

**WAREHOUSE
(P. 184)**

These facilities have minimal security other than a lock on the door and a simple alarm system.

Key

1. Lobby/Office
2. Storage
3. Fresher
4. Warehouse Area

**LIVESTOCK
WAREHOUSE**

These facilities temporarily shelter living (but non-sentient) cargo, and also function as quarantine centers. Veterinary facilities (8-12) are not always present.

Key

1. Lobby/Office
2. Stairs to Feed Loft/Storage
3. Fresher
4. Storage
5. Animal Cleaning Area
6. Large Animal Pens
7. Small Animal Pens
8. Medical Center
9. Laboratory
10. Office
11. Medical Supplies
12. Operating Theater

**SECURE
WAREHOUSE
(P. 125)**

Secure warehouses protect especially valuable cargoes. HAZMAT (hazardous materials) warehouses are similar, often sited behind a blast protection berm and with greater provision for remote security. Security procedures are dictated by the tenant.

Key

1. Vehicle Entrance
2. Vehicle Checkpoint
3. Personnel Entrance
4. Lobby
5. Office with Armory
6. Vault
7. Fresher
8. Lift to Walkway
9. Warehouse Area with Walkway
10. Perimeter Fence

**STARSHIP BERTH
(P. 126)**

This shows an alternate style of free-standing small berth, in which the ship lands on a pad then maneuvers horizontally into the enclosed berth.

Key

1. Landing Beacon
2. Landing Pad
3. Fuel/Power Conduits Access
4. Interior Berth (scout shown)
5. Workshop
6. Lounge with Fresher and Office

SHUTTLE BERTH

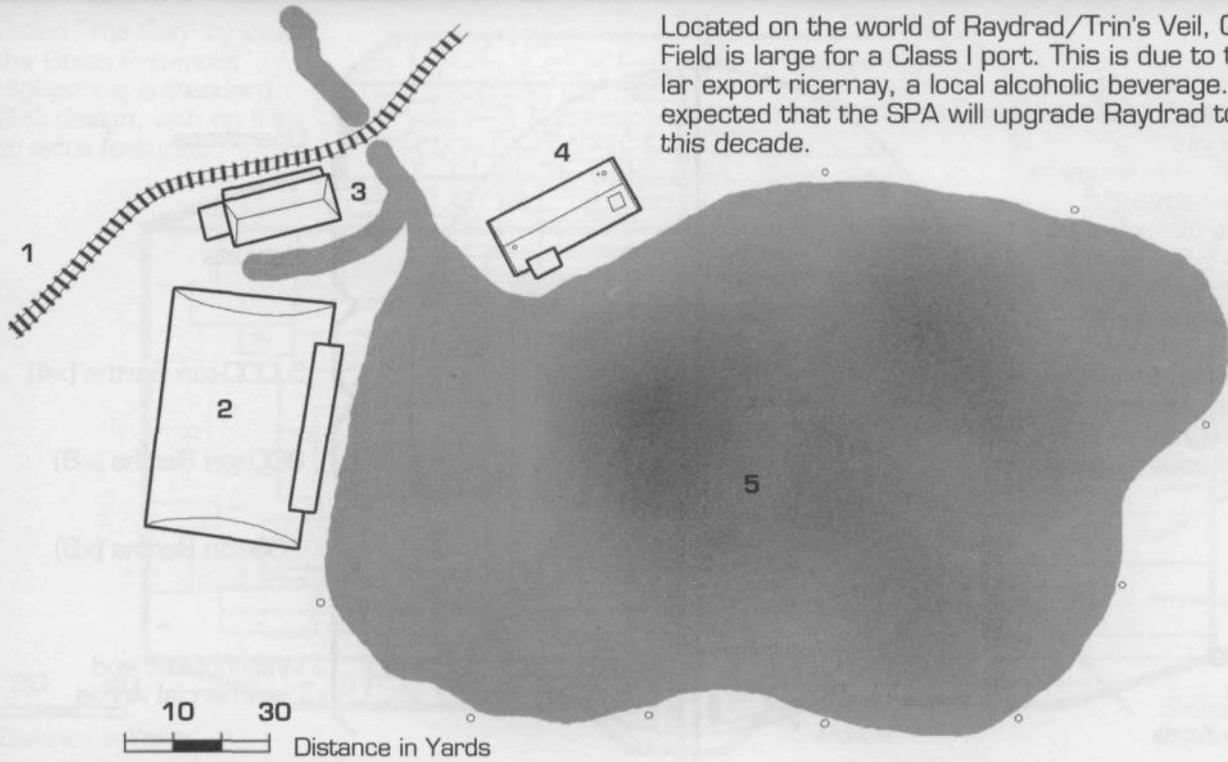
Berths of this type are intended to serve non-jump-capable spacecraft, primarily shuttles to and from near-planetary orbit, so include large passenger facilities.

Key

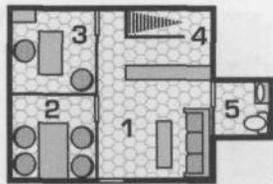
1. Landing Beacon
2. Landing Pad
3. Fuel/Power Conduits Access
4. Boarding Arm
5. Boarding Station
6. Passenger Waiting Area
7. Check-In Desk
8. Concourse
9. Service Area
10. Utility Room, Baggage Area

Graniff Field

Located on the world of Raydrad/Trin's Veil, Graniff Field is large for a Class I port. This is due to the popular export ricernay, a local alcoholic beverage. It is expected that the SPA will upgrade Raydrad to Class II this decade.



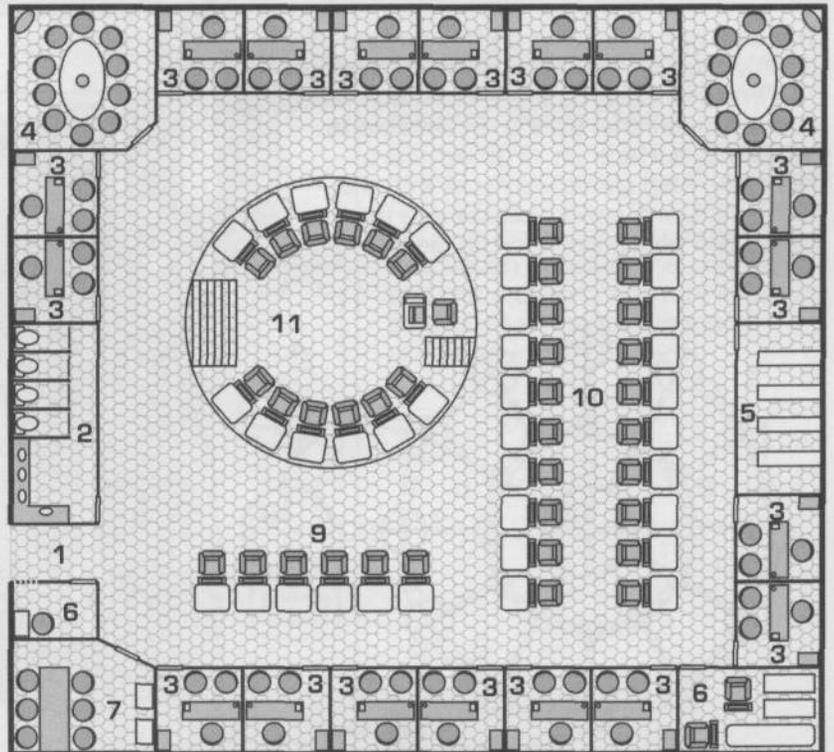
Control Centers



Small Tower



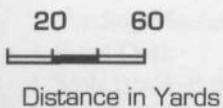
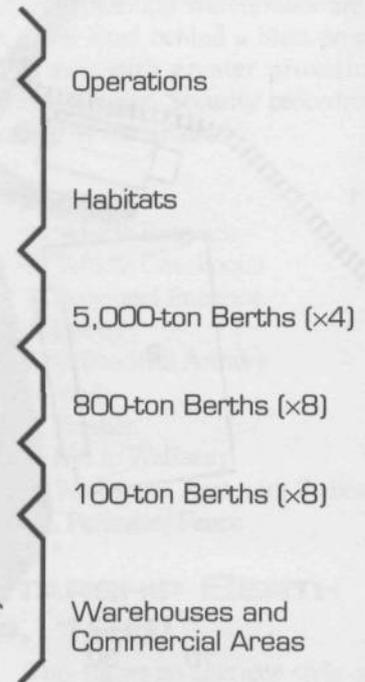
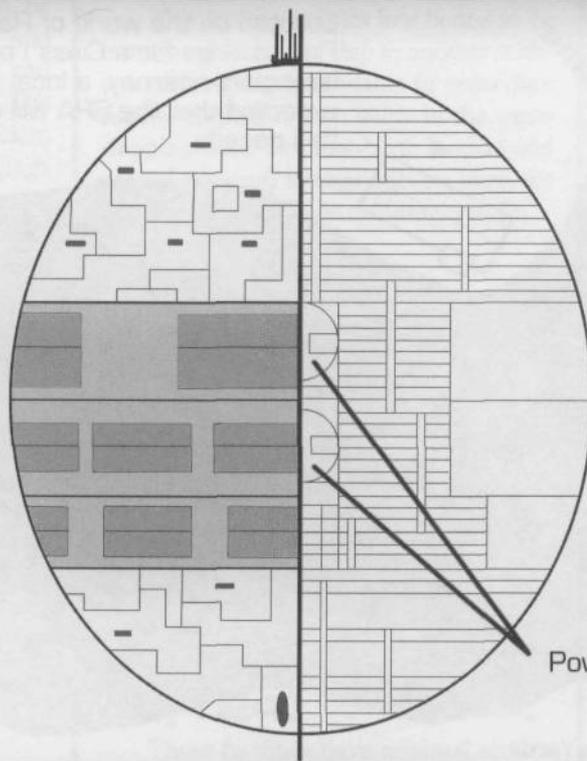
Space Control Center



1 hex = 1 yard

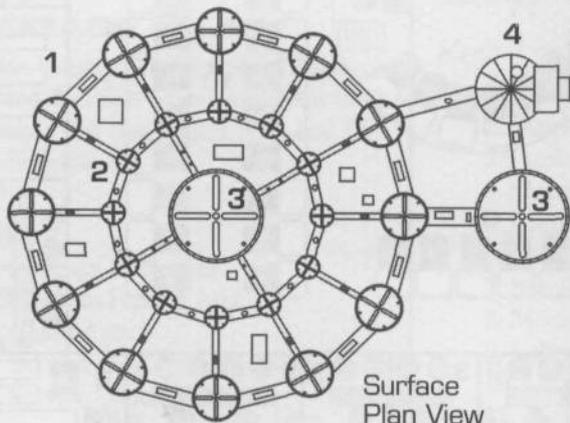
Rech Orbital Station

Although it is rated as only a Class II starport, a large highport serves Rech/Lanth. This is due to the violent weather patterns on the planet's surface, which make atmospheric operations difficult. Most passenger traffic transfers from the highport to the subterranean downport via heavy shuttlecraft, specially designed to operate in the chaotic environment.

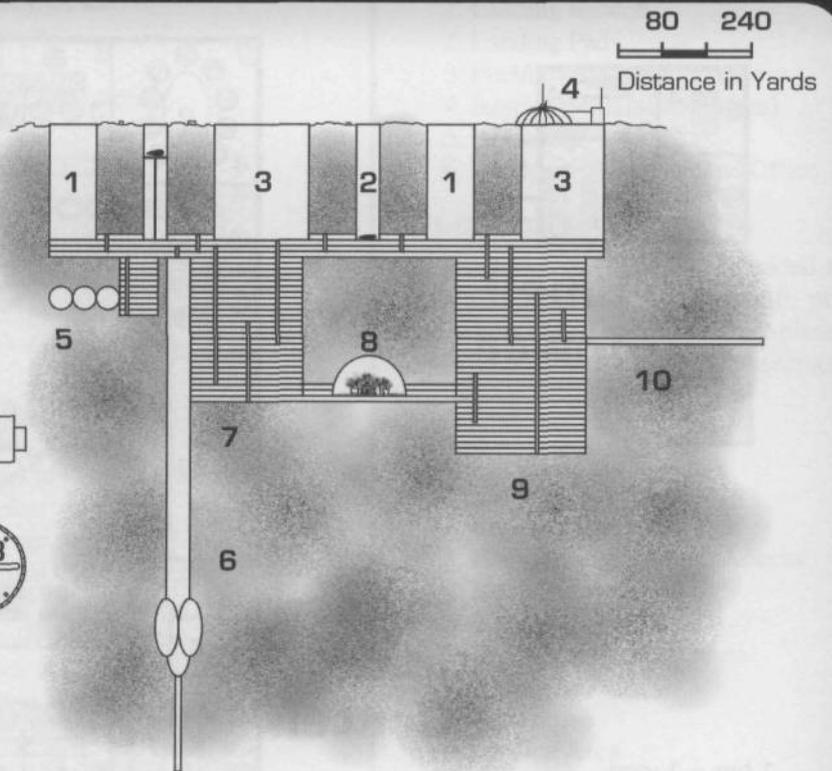


Rech Imperial Caverns

The weather conditions on the surface of Rech effectively prohibit a normal downport. The Imperial Caverns are a collection of subterranean ship berths, accessible to the planet surface via large elevators. Normally, ship traffic interacts with the highport, using special shuttles to ferry cargo and passengers to the planet.



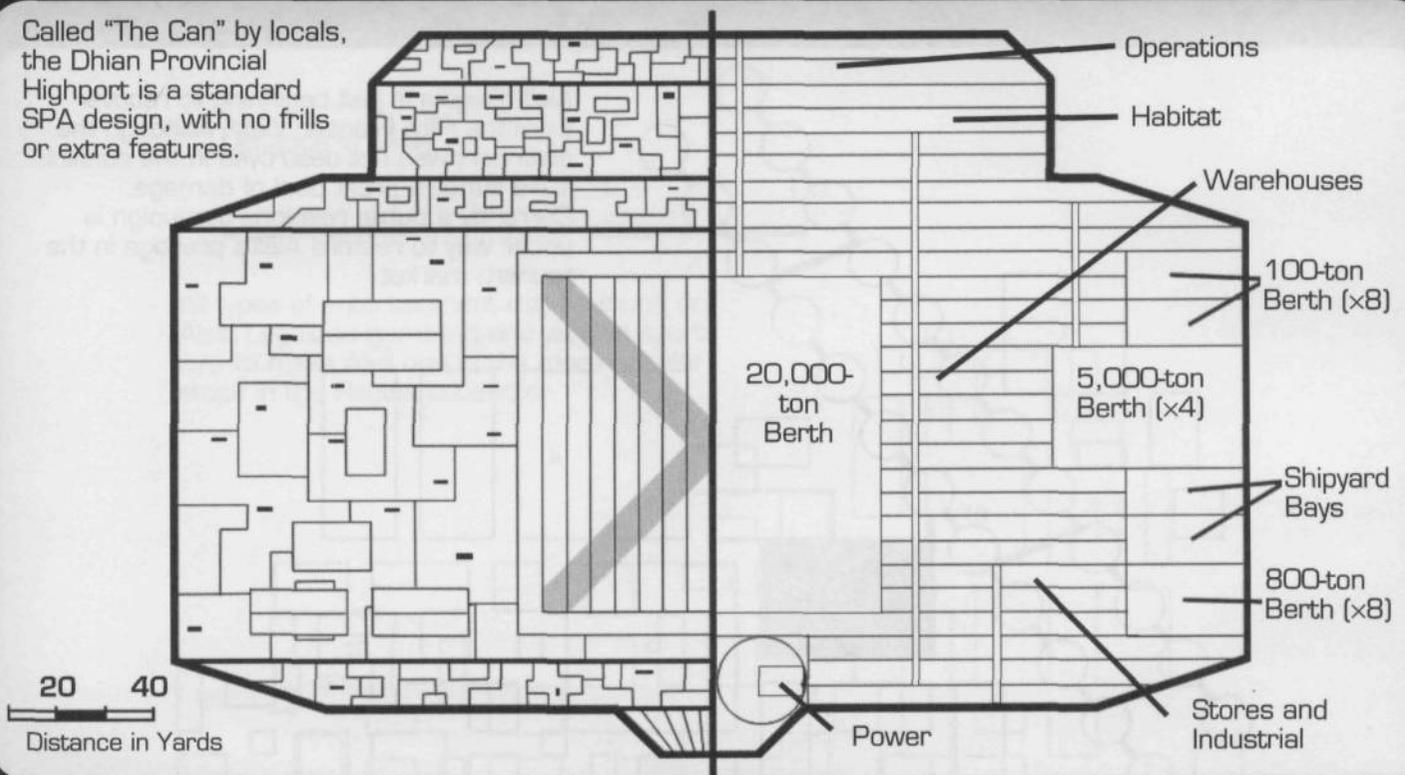
Surface Plan View



Interior Cross-Section View

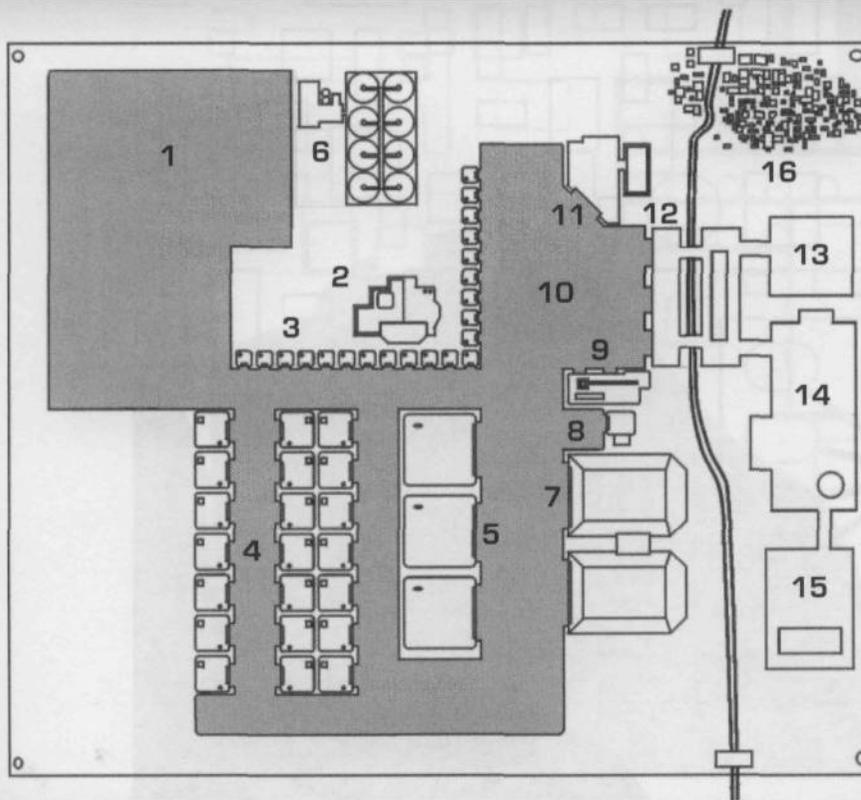
Dhian Provincial Highport

Called "The Can" by locals, the Dhian Provincial Highport is a standard SPA design, with no frills or extra features.



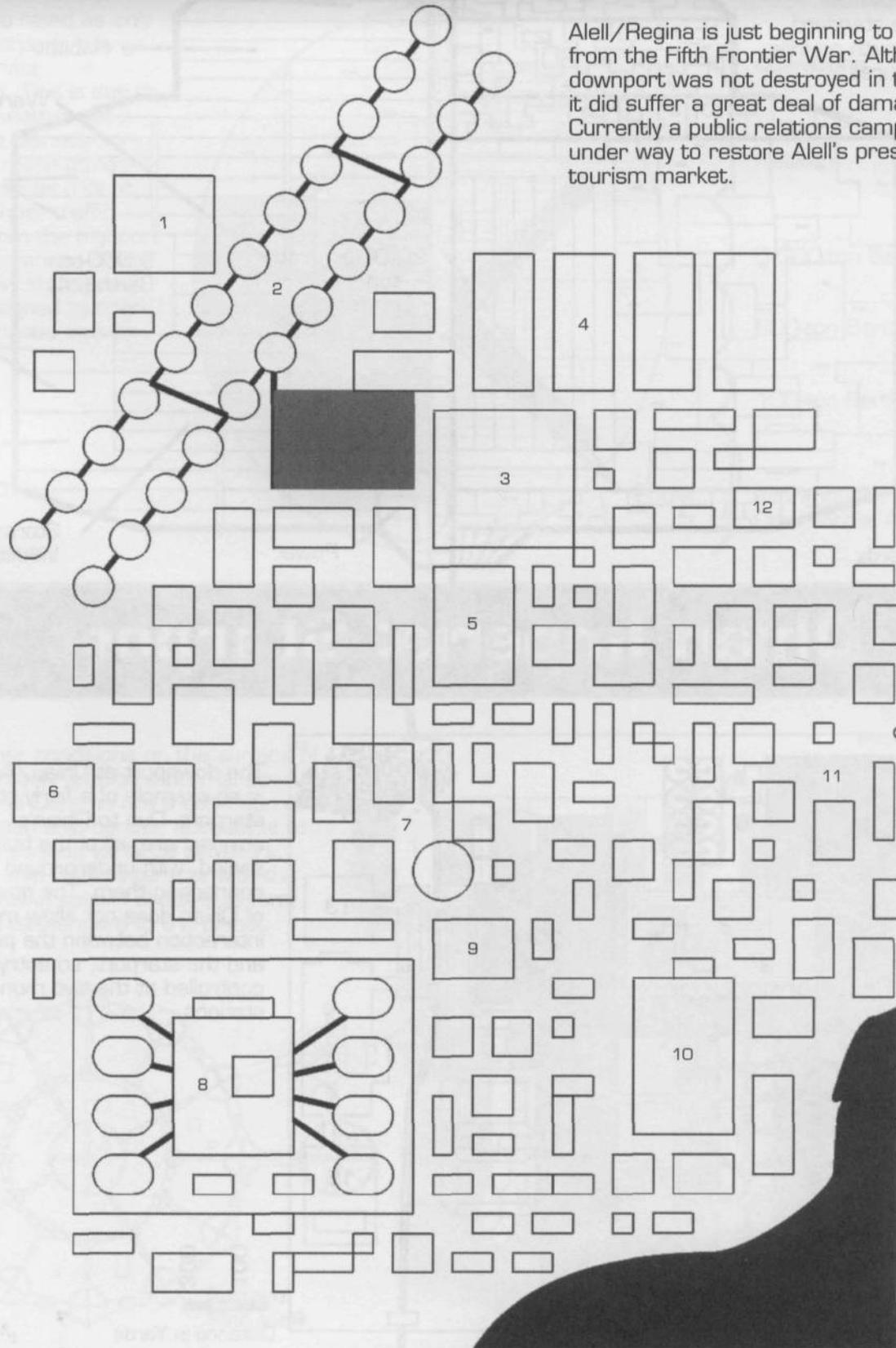
Dhian Imperial Starport

The downport at Dhian/Aramis is an example of a fairly standard starport. Due to Dhian's atmosphere, all of the buildings are sealed, with underground passages connecting them. The government of Dhian does not allow much interaction between the population and the starport, so entry is strictly controlled at the two monorail stations.



Alell Grande Downport

Alell/Regina is just beginning to recover from the Fifth Frontier War. Although the downport was not destroyed in the conflict, it did suffer a great deal of damage. Currently a public relations campaign is under way to restore Alell's prestige in the tourism market.

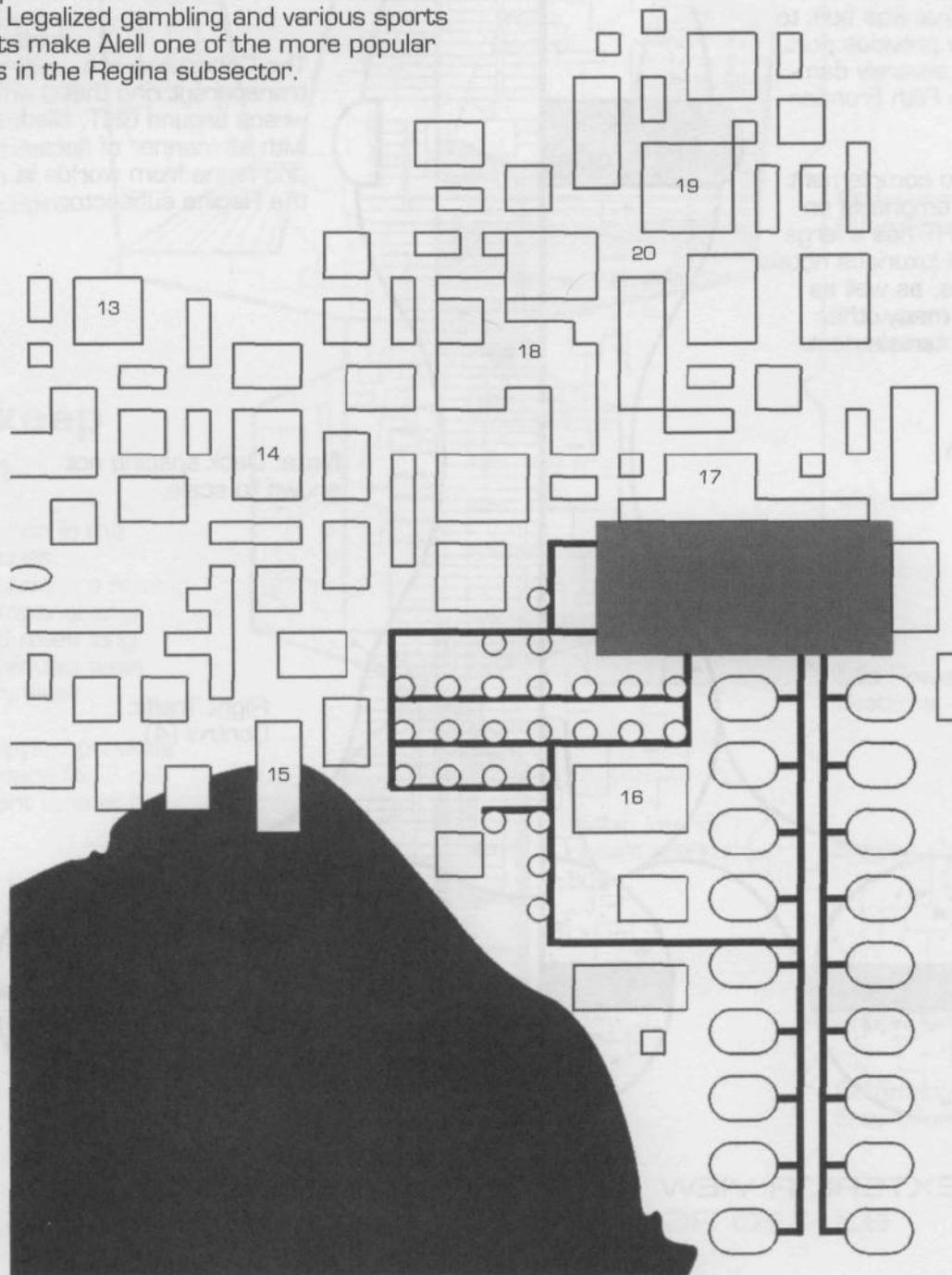


and Resort Center

Distance in Miles



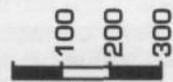
All types of entertainment can be found on Alell. Legalized gambling and various sports events make Alell one of the more popular stops in the Regina subsector.



Alell Grande High Terminal

One of the newest stations in the Marches, the Grande High Terminal was built to replace the previous port, which was severely damaged in the Fifth Frontier War.

Designed to complement Alell's new emphasis on tourism, GHT has a large selection of luxurious hotels and casinos, as well as shops and many other forms of entertainment.



Distance in Yards

The Concourse is a transparent ring that wraps around GHT, filled with all manner of flora and fauna from worlds in the Regina subsector.

Note: Deck spacing not shown to scale.

Flight Traffic Control (4)

Commercial District

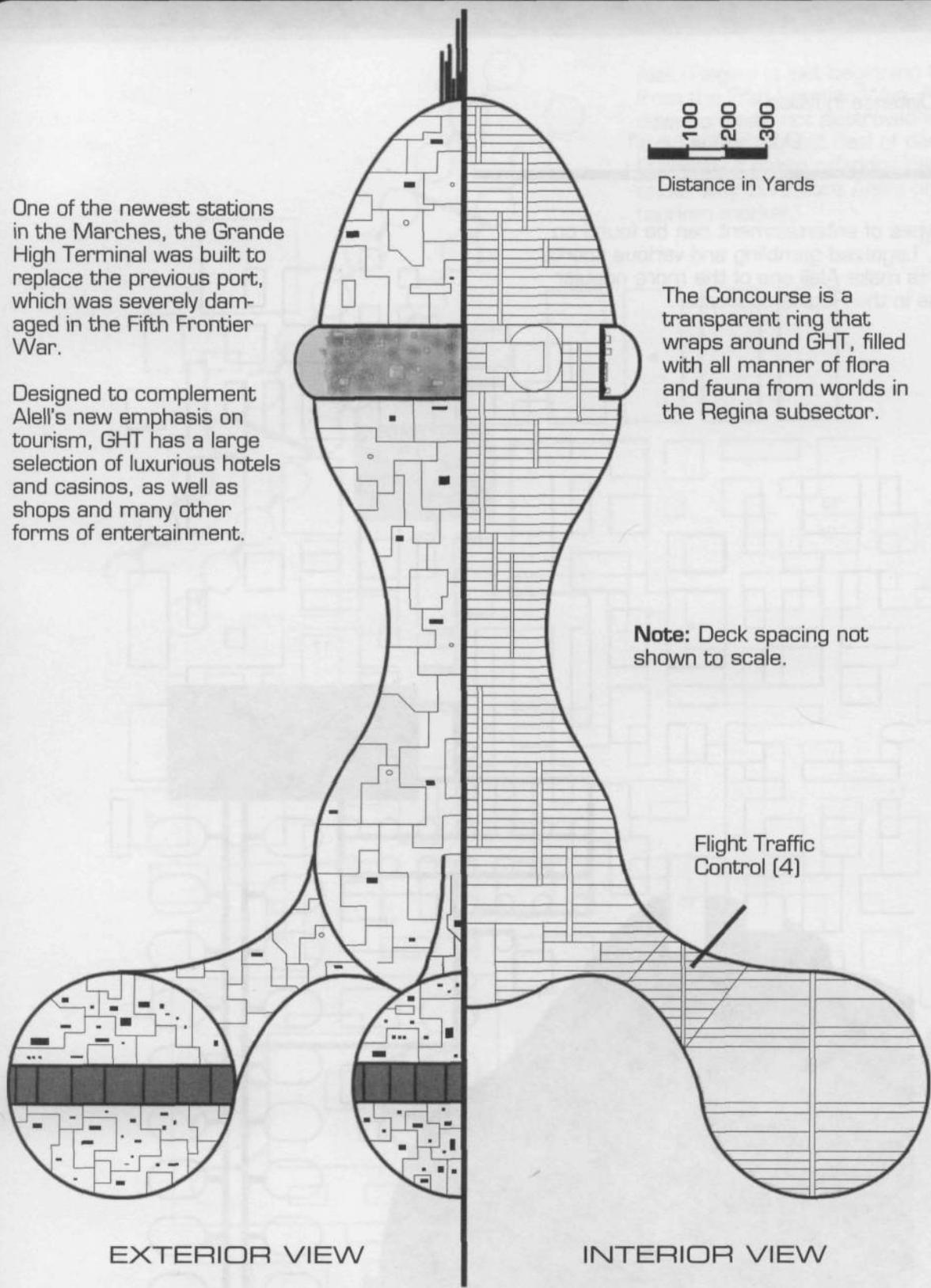
Gardens & Power

Habitats

Operations

Shipyards & Warehouses

Ship Berths



EXTERIOR VIEW

INTERIOR VIEW

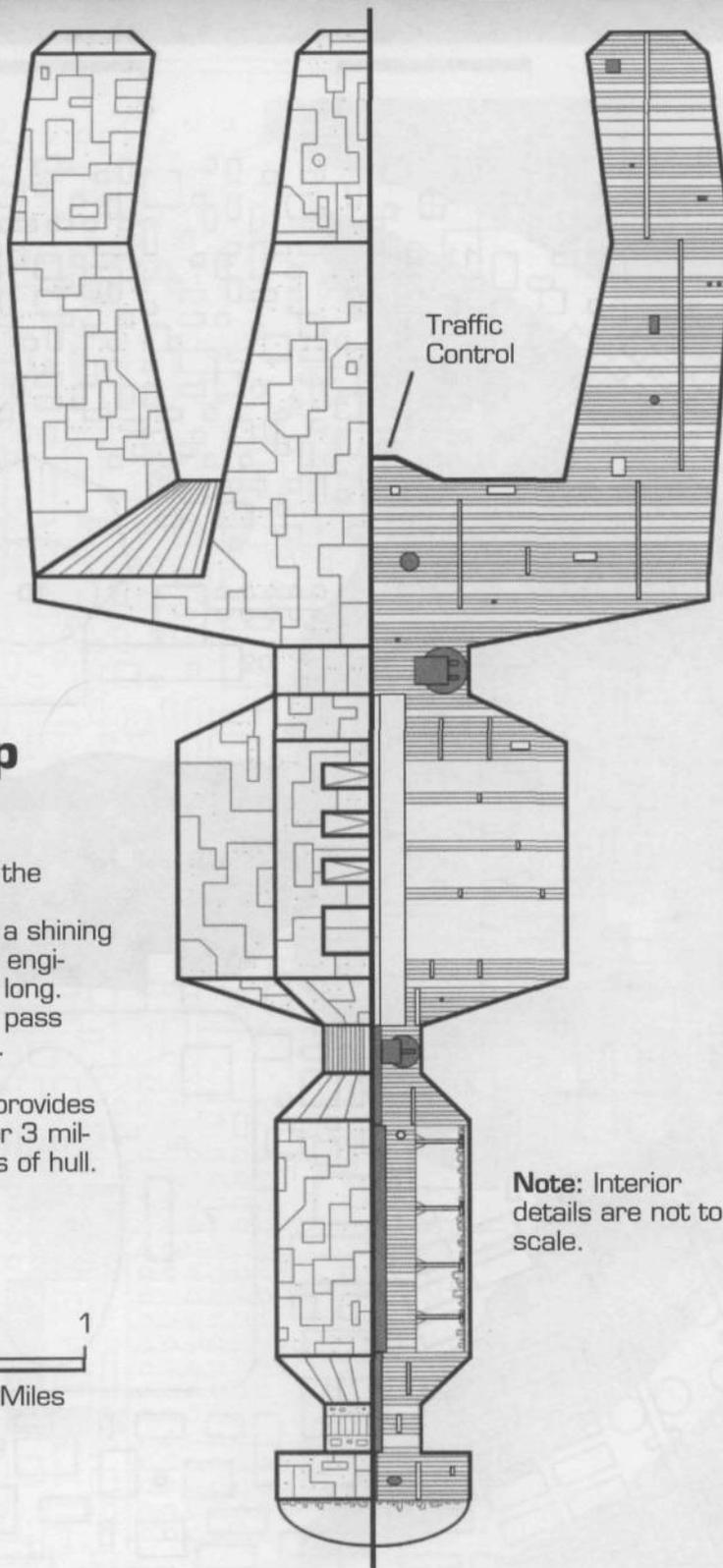
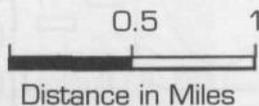
Mora Imperial Highport

Mora Imperial Highport is actually three separate stations: Marchkeep Station, the DTI Transfer Station, and the Diplomatic Spire. The largest of the three, Marchkeep, is what most people think of when they hear the name Highport. The DTI Station is called the Transfer Point, while the Diplomatic station is merely called The Spire.

Marchkeep Station

The largest station in the Spinward Marches, Marchkeep Station is a shining testament to Imperial engineering, over 6 miles long. Five million individuals pass through it every week.

The central shipyard provides construction space for 3 million displacement tons of hull.



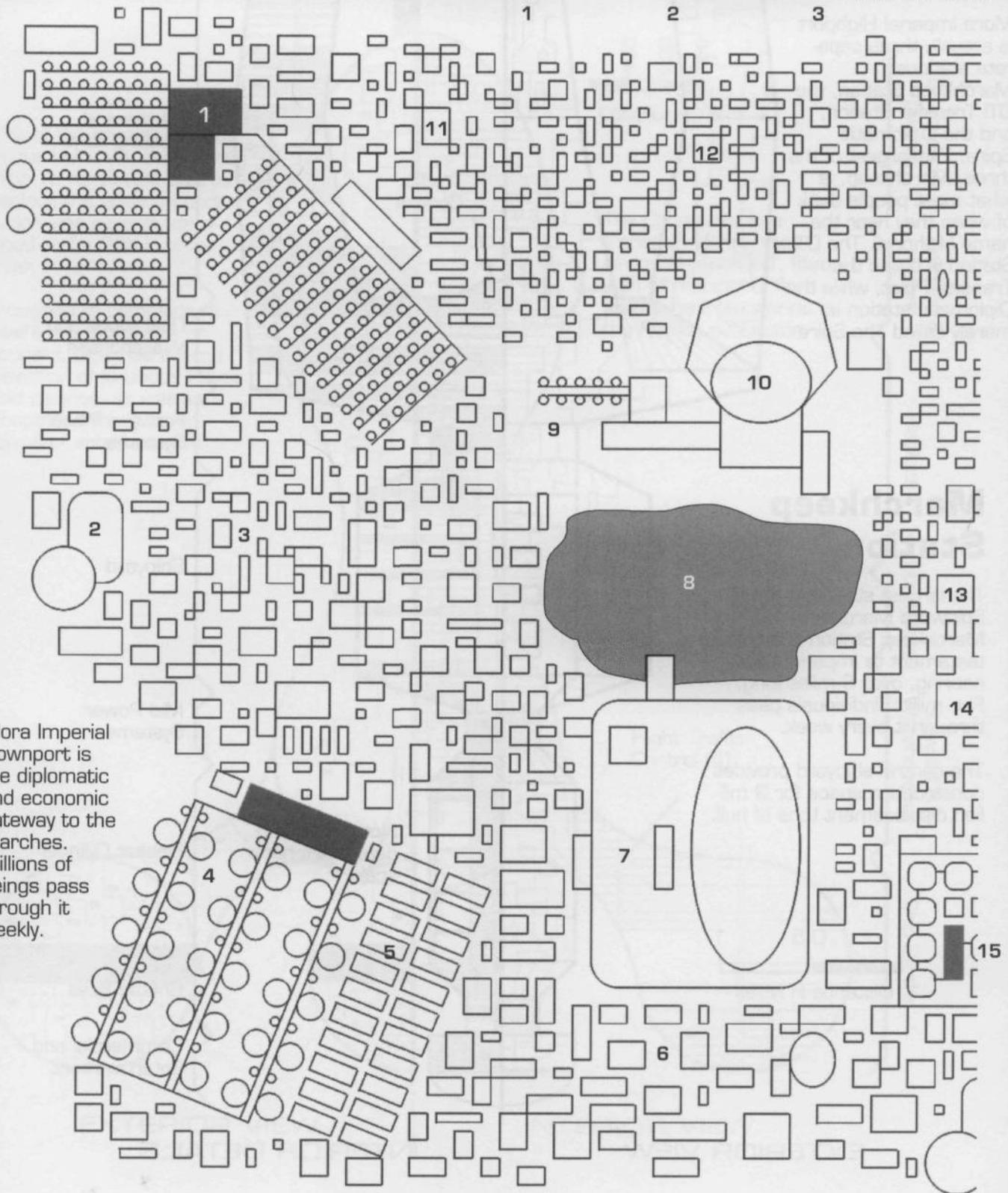
Note: Interior details are not to scale.

EXTERIOR VIEW

INTERIOR DETAILS

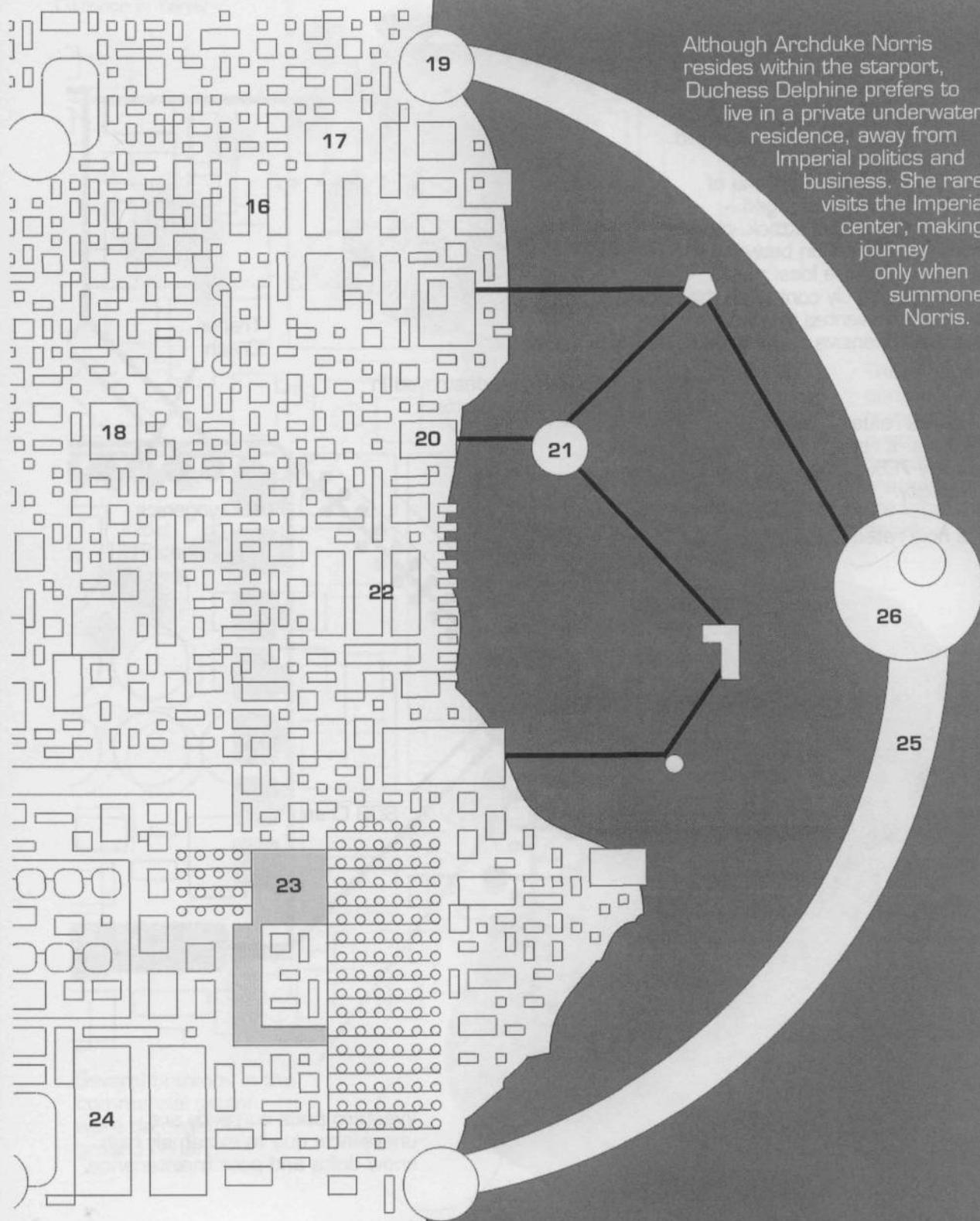
Mora Imperial Downport

Distance in Miles
1 2 3



Mora Imperial Downport is the diplomatic and economic gateway to the Marches. Millions of beings pass through it weekly.

and Wavecrest City



Although Archduke Norris resides within the starport, Duchess Delphine prefers to live in a private underwater residence, away from Imperial politics and business. She rarely visits the Imperial center, making the journey only when summoned by Norris.

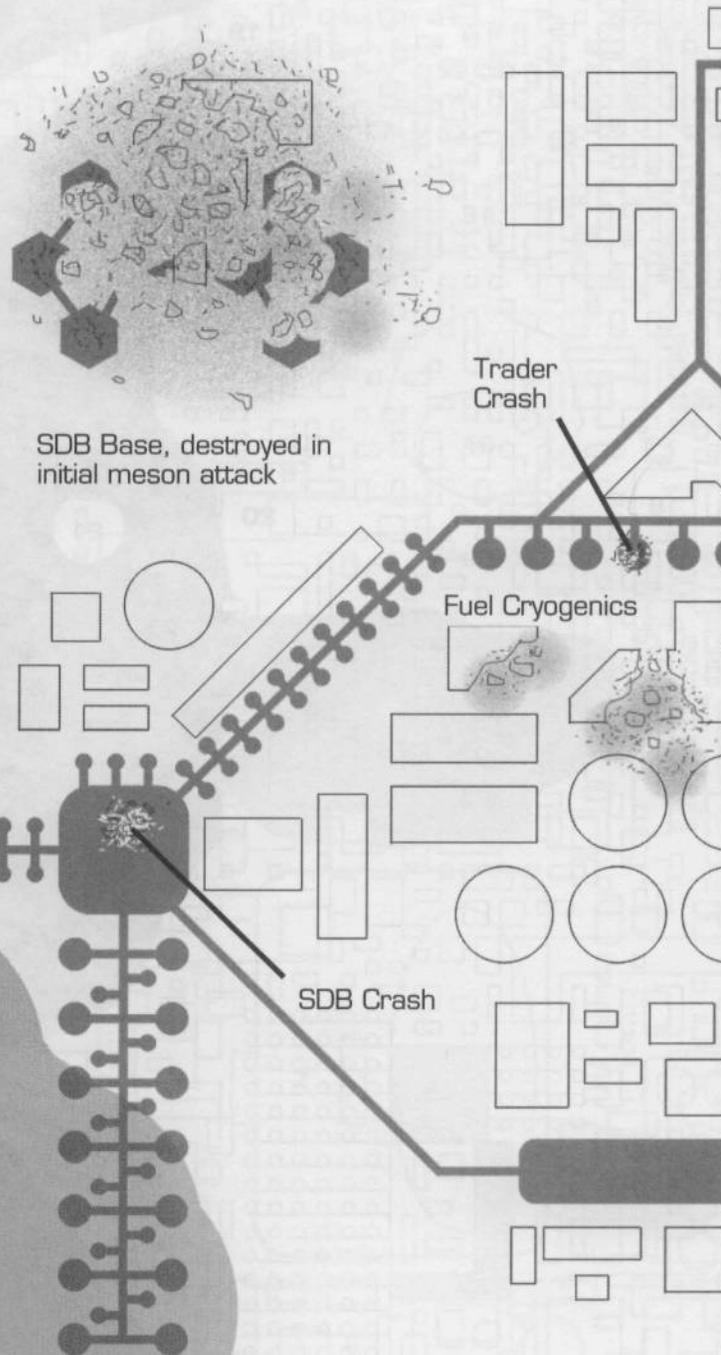
Victim of War:

Fyrandil Imperial Starport was a large, advanced port on the frozen world of Loozy/Jewell. Loozy is entirely dependent on food imports to feed its huge population, and Fyrandil was the primary delivery point for the large bulk carriers needed for food delivery.

The best gateway into the Regina subsector, Loozy is also of extreme strategic importance to both the Zhodani and Imperial forces. During the Fifth Frontier War, Loozy was besieged by the Zhodani in order to use the world as a staging area. Portions of Fyrandil Starport were damaged – some by the initial orbital attack, others by extended ground action between the Consular Guard and the local militia. The Zhodani never truly controlled the starport, which prevented them from continuing their offensive in the area.

Fyrandil lost its refueling and repair facilities. It retains approximately 70% of its landing capacity.

Fyrandil is now rated Class II.

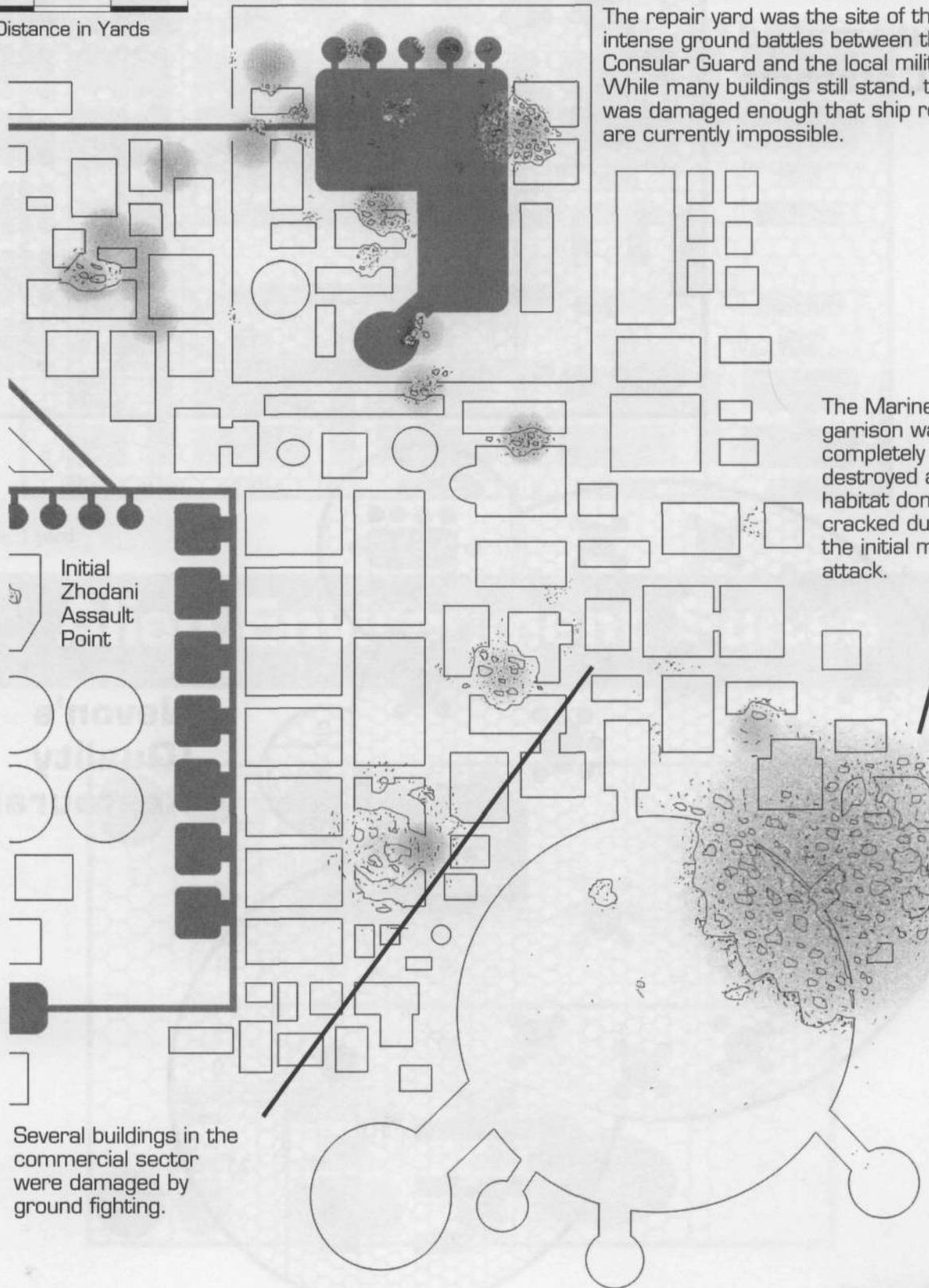


200 400
Distance in Yards

Western pads currently are unavailable due to extremely high snow drifts and poor maintenance.

Fyrandil Imperial Port

300 600 900
Distance in Yards



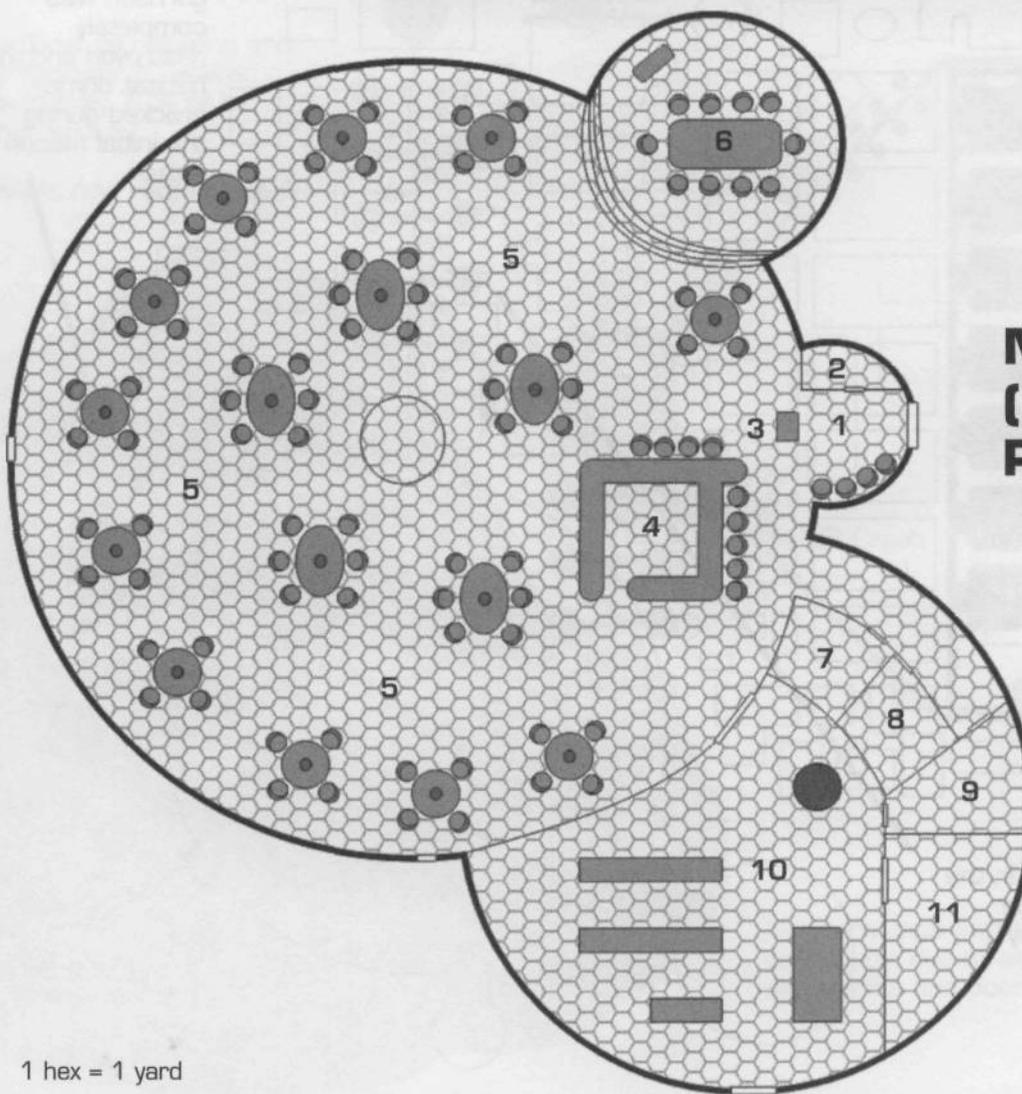
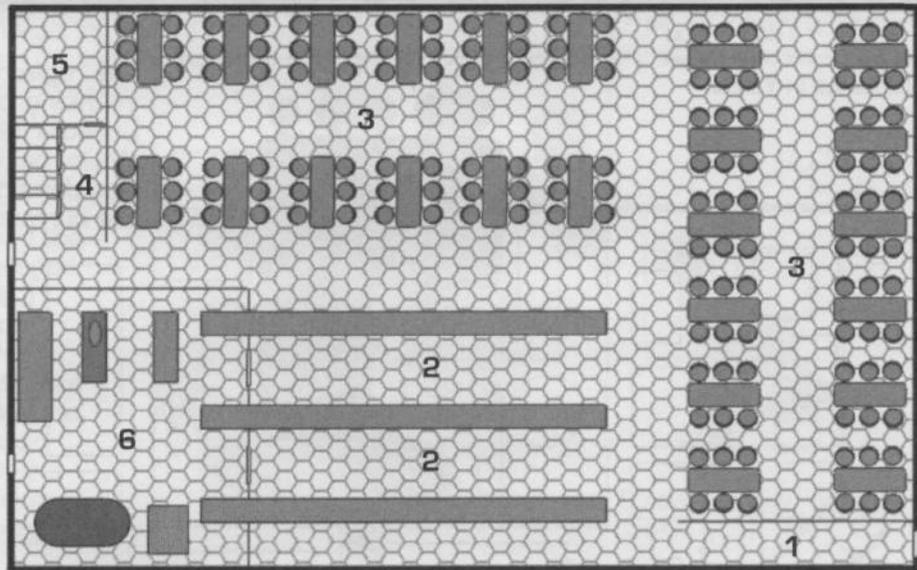
The repair yard was the site of the most intense ground battles between the Consular Guard and the local militia. While many buildings still stand, the yard was damaged enough that ship repairs are currently impossible.

The Marine garrison was completely destroyed and the habitat dome cracked during the initial meson attack.

Several buildings in the commercial sector were damaged by ground fighting.

Dining Establishments

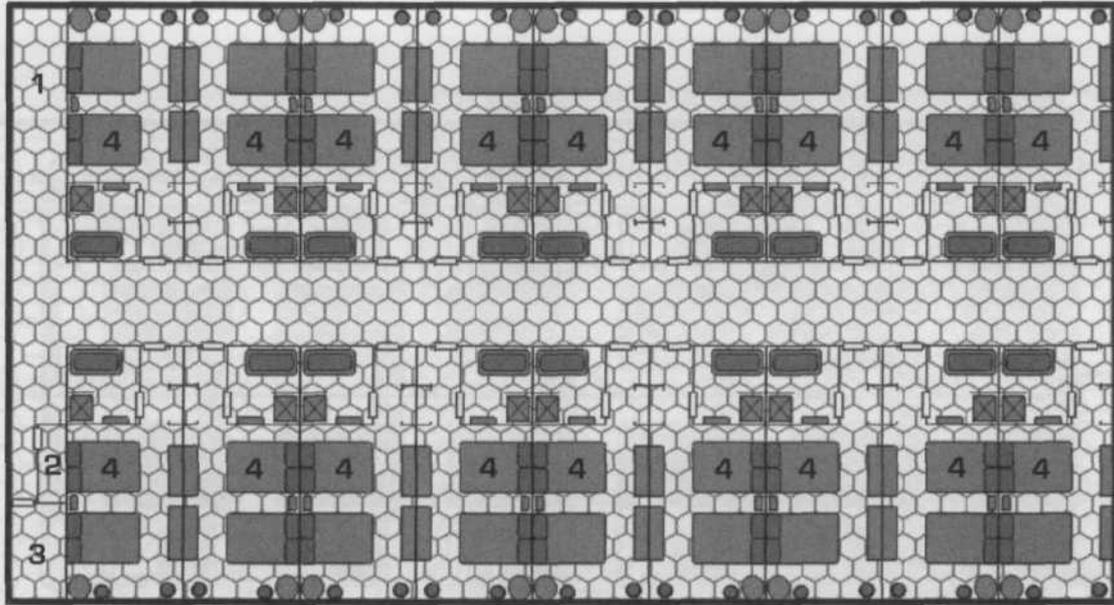
Automated Cafeteria



Nevon's (Quality Restaurant)

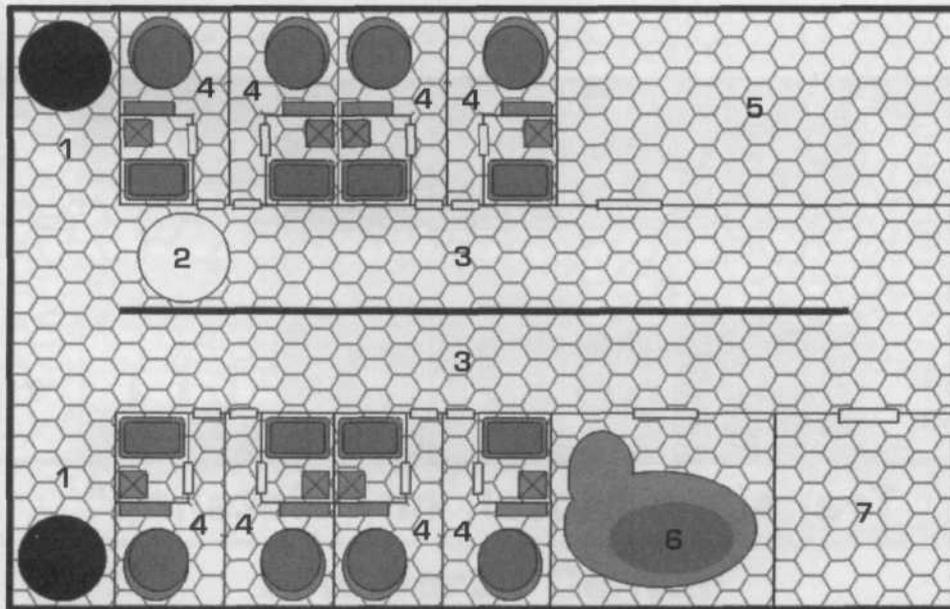
1 hex = 1 yard

Standard Hotel Floor



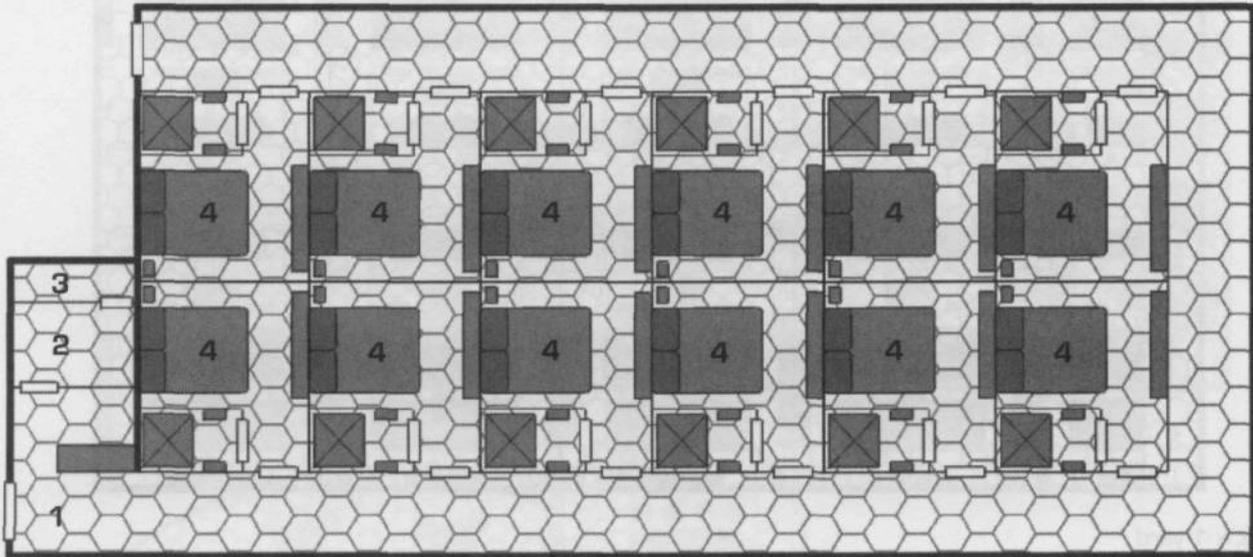
1 hex = 1 yard

Alien Environment Suites

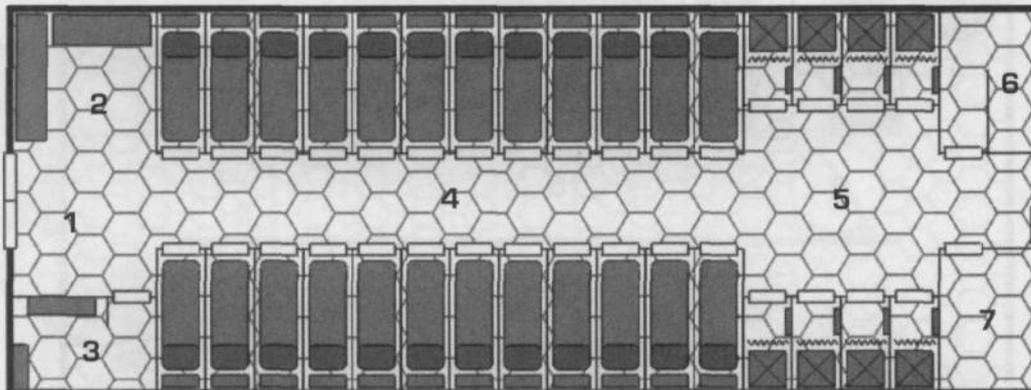


1 hex = 1 yard

Low-Cost Lodging



Low-Quality Motel

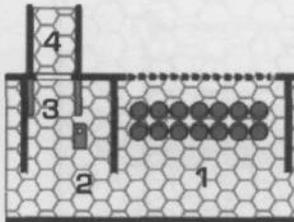


Transient Motel, or "Slotshop"

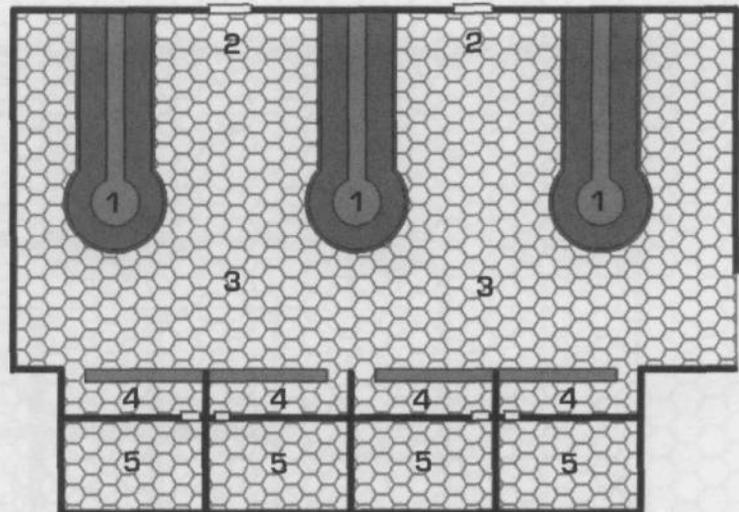
1 hex = 1 yard

Passenger Facilities

To Vessel

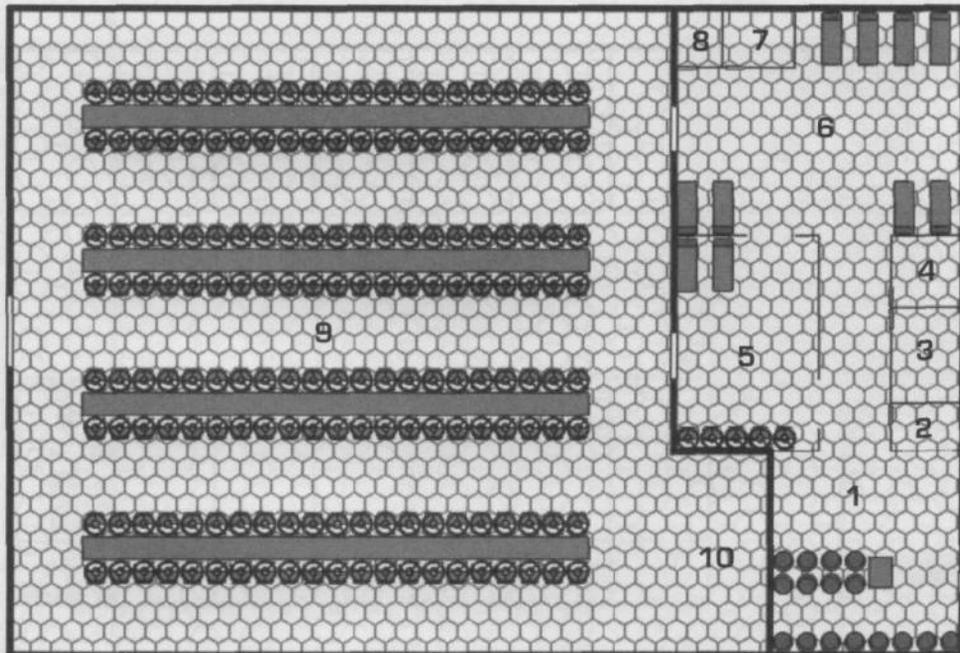


Boarding Gate



To Concourse

Baggage Claim

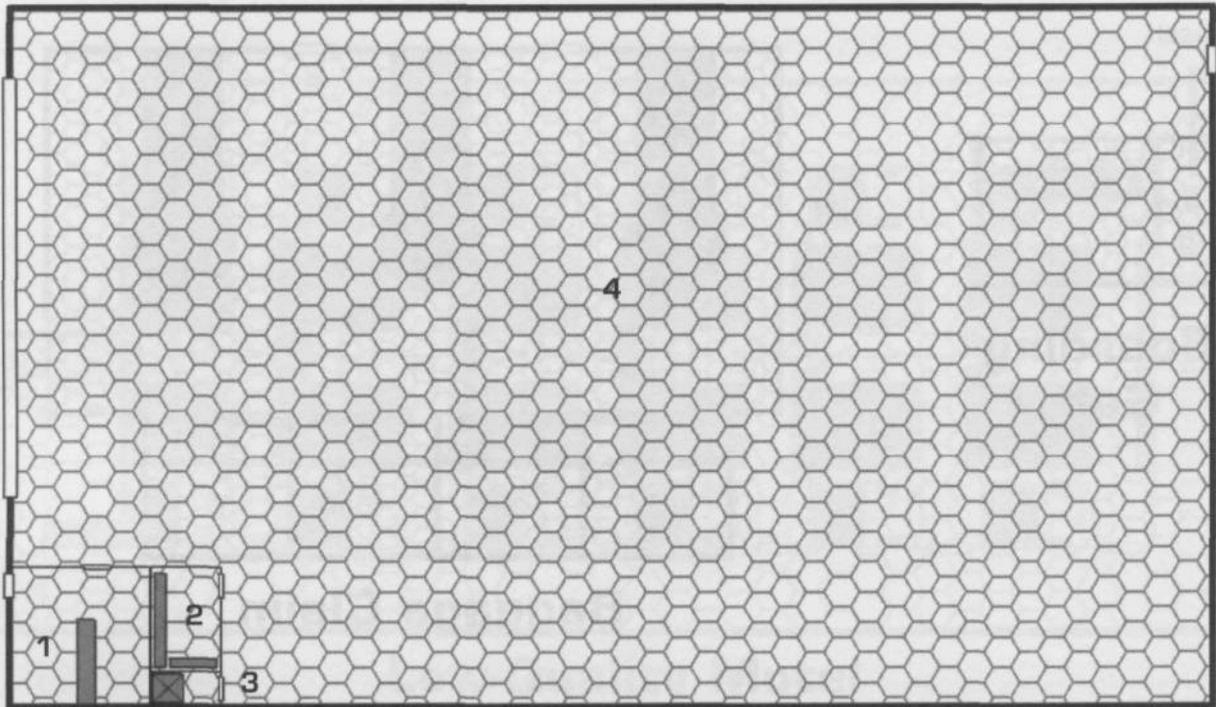


To Concourse

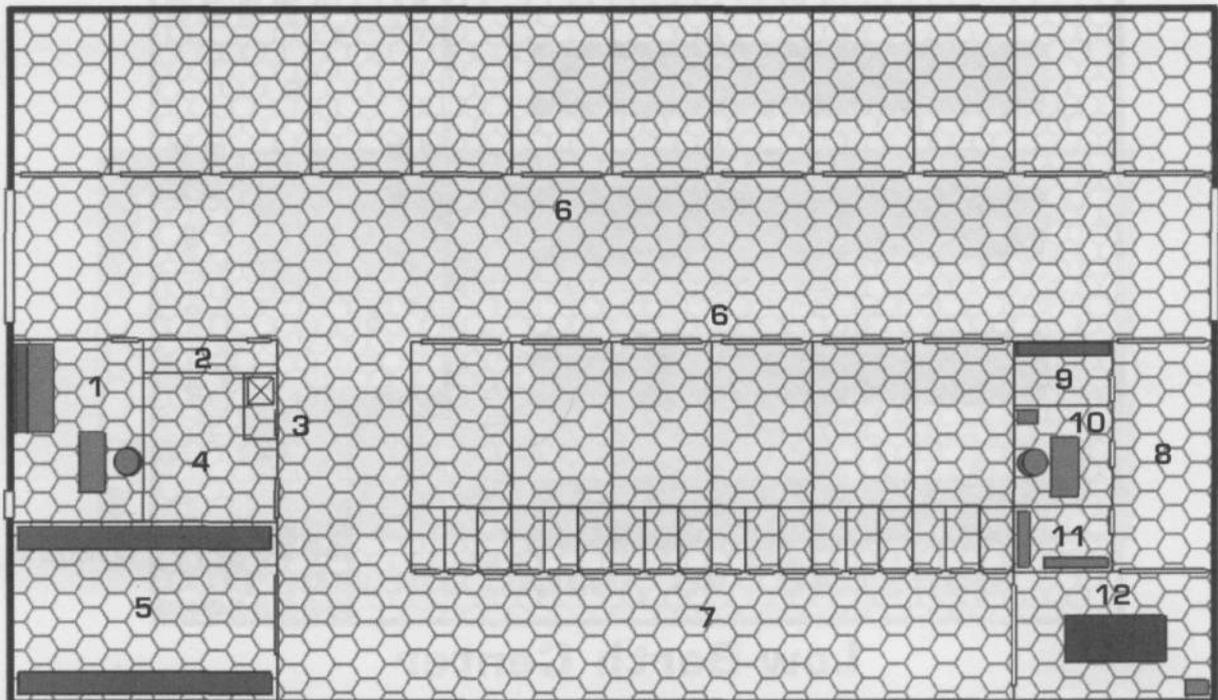
Low-Berth Center

1 hex = 1 yard

Cargo Facilities



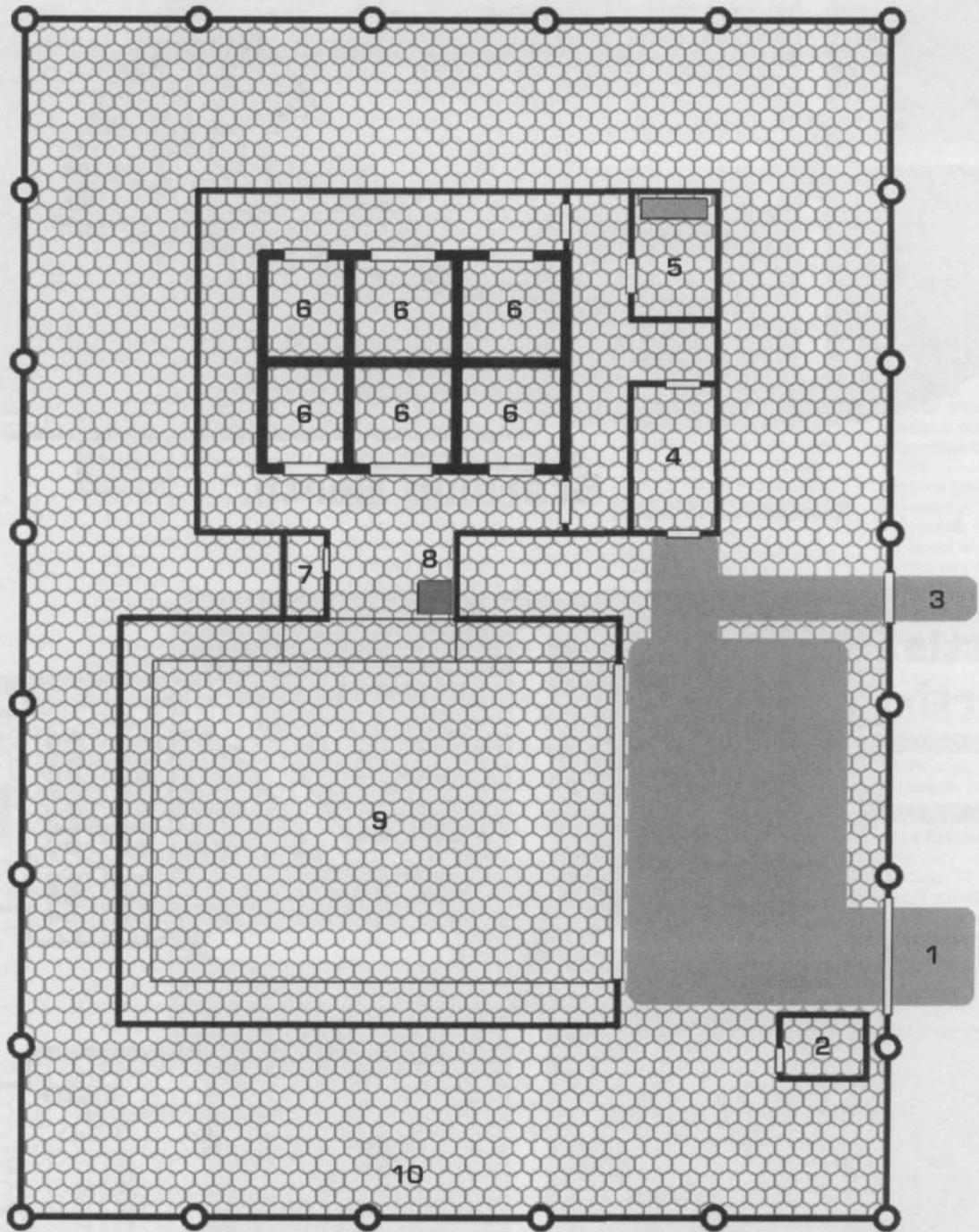
Standard Warehouse



Livestock Warehouse

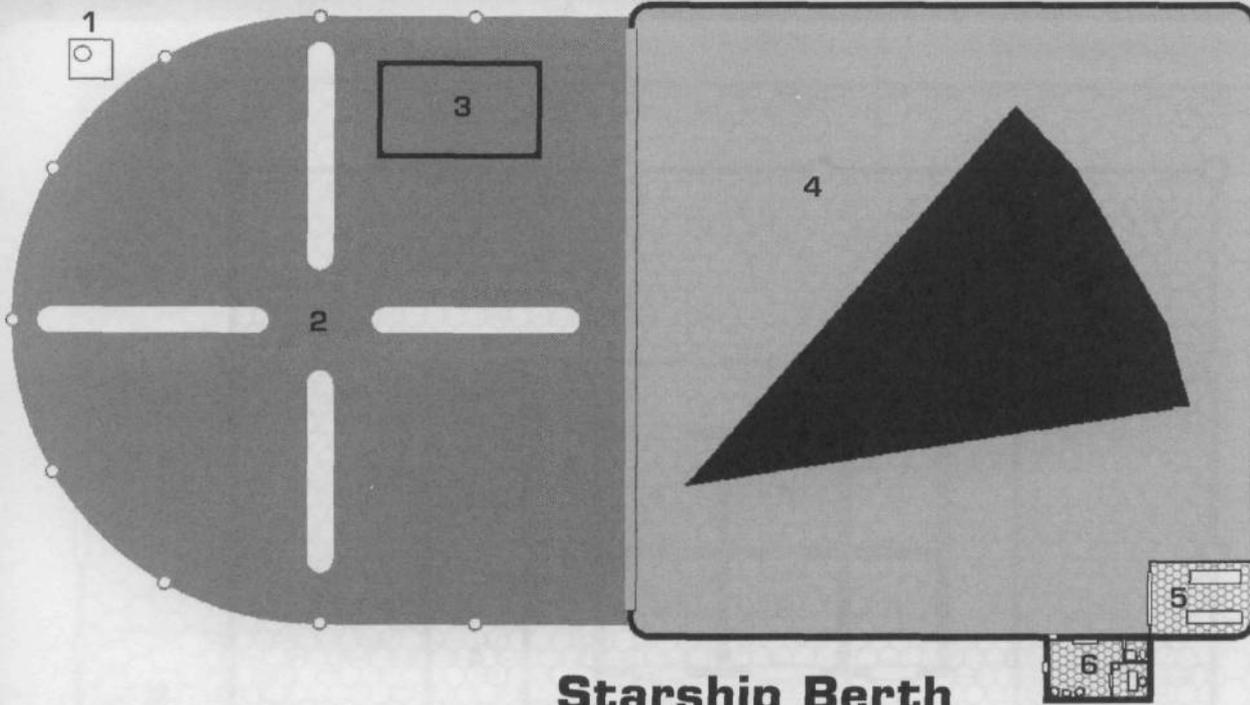
1 hex = 1 yard

Secure Warehouse



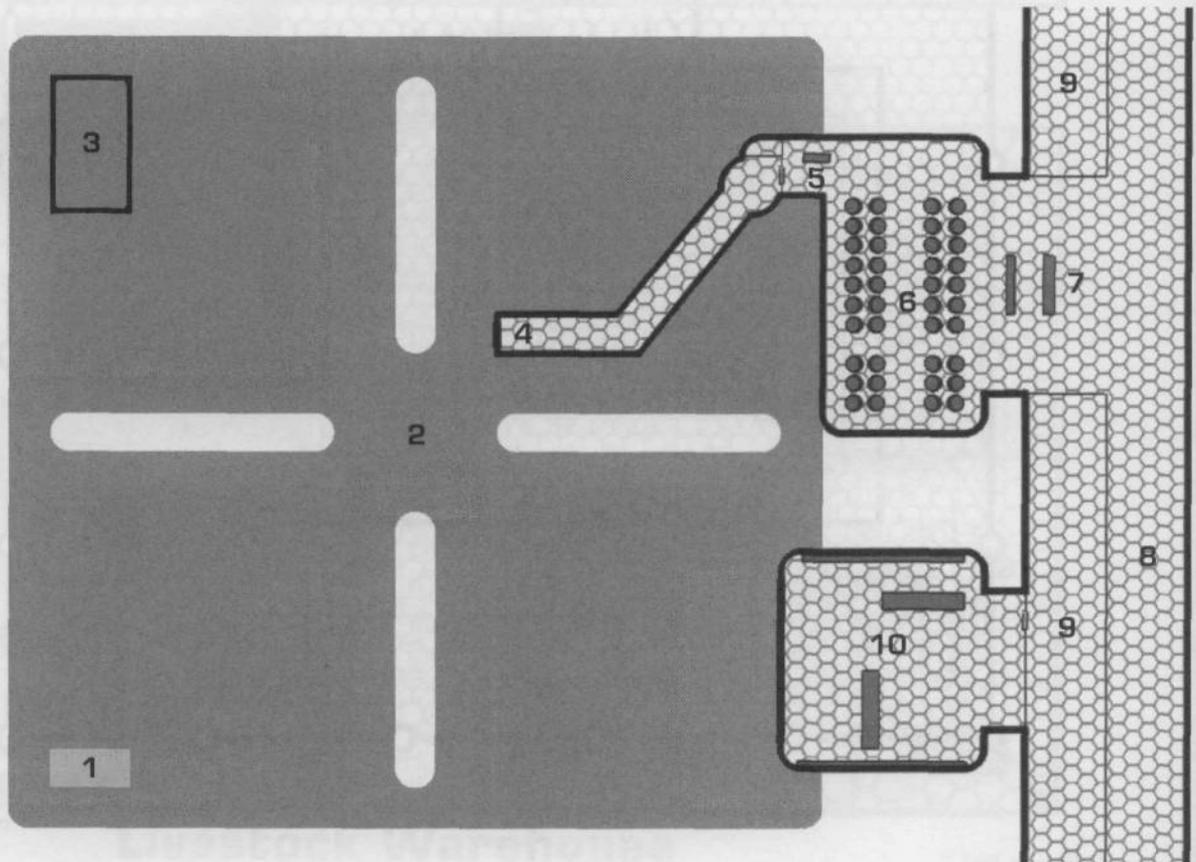
1 hex = 1 yard

Vessel Berths



Starship Berth

Shuttle Berth



1 hex = 1 yard

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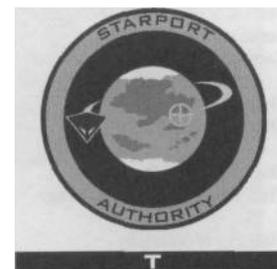
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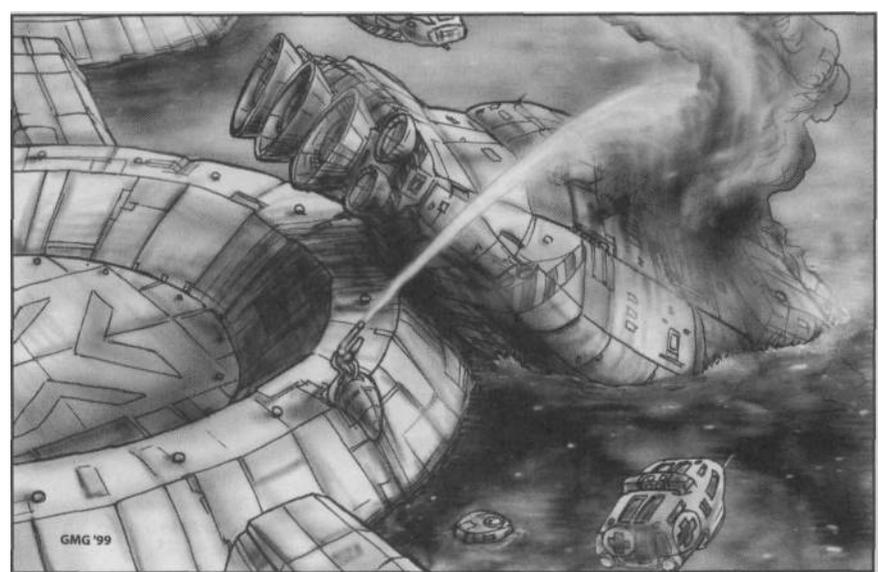
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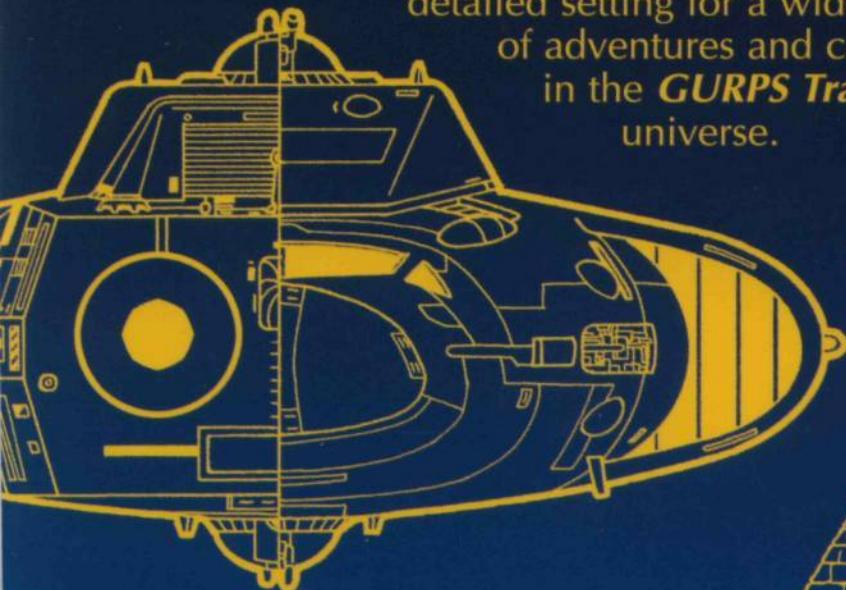


Anchors of the Imperium

Patrol, trade, and Xboat routes are the lifelines of the Imperium, and starports are the anchors to which they are tethered. Serving as trade centers, customs offices, and outposts of civilization, starports play a central role in the lives of starfarers, and are a crucial source of goods, wealth, and information for even the most planetbound of souls. At the same time, they are havens for smugglers, fugitives, and black marketeers.

Starports classifies standard starports and describes their facilities, organization, and functions. It includes plans of typical spaceports from the Spinward Marches (including Mora, Graniff Field on Raydrad, Rech, Dhian, and Alell) and guidelines for starport adventures and encounters. There are also character templates for starport denizens, descriptions and floor plans of key locations, and deck plans for customs, liaison, and emergency spacecraft and some common starport ground vehicles.

Starports is designed to complement the **Far Trader** and **Starships** supplements, and offers a rich and detailed setting for a wide variety of adventures and campaigns in the **GURPS Traveller** universe.



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The **GURPS Basic Set** and **GURPS Traveller** are required for full use of this book in a **GURPS** campaign. **GURPS Traveller Far Trader** and **GURPS Vehicles** are not required, but will be useful. The background presented here will be of great value to any **Traveller** campaign, and will also serve as a source of inspiration for other SF gamers.

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