AI Compute Project Finance with Take-or-Pay Capacity Contracts

A Credit Framework for Contracted Capacity, Delivery Risk and Debt Service

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Abstract

AI compute projects require large, front-loaded commitments to data-centre space, power, cooling, networks, accelerators and software. Sponsors increasingly point to multi-year customer capacity commitments as the foundation for asset-level debt. The label take-or-pay can suggest bankability while leaving the decisive risks unresolved. Debt service depends on the capacity being delivered on time, meeting defined performance obligations, surviving technology change, receiving customer acceptance, producing enforceable invoices and collecting cash from creditworthy counterparties.

This paper develops a credit framework for financing AI compute against committed-capacity contracts. It separates contracted value from financeable cash flow and tests the full chain from site and power readiness through equipment delivery, commissioning, service availability, customer remedies, billing and collection. The framework combines a contract-rights matrix, customer-credit assessment, capacity-delivery schedule, utilisation curve, borrowing-base method, debt-service model, covenant package and downside transfer plan.

The analysis draws on public filings by AI infrastructure and data-centre companies, US Securities and Exchange Commission disclosure requirements, IFRS revenue and financial-instrument standards, International Energy Agency and US Department of Energy research, Federal Energy Regulatory Commission and North American Electric Reliability Corporation materials, project-finance guidance from the World Bank and International Finance Corporation, and cybersecurity and operational-resilience frameworks [1-50]. These sources establish market evidence and analytical boundaries. They do not establish the enforceability, credit quality, valuation or financeability of any particular contract or project.

An illustrative project demonstrates the method. Management assumes a USD 1.20 billion total project cost, 96 megawatts of critical IT capacity and a six-year customer commitment for 72 megawatts. The customer pays a fixed reservation charge for available capacity, reimburses specified power costs and provides a 20 per cent prepayment. Management assumes construction debt of USD 510 million, equipment debt of USD 260 million, sponsor equity of USD 290 million and customer cash of USD 140 million. Under the central case, contracted capacity ramps from 24 megawatts to 72 megawatts over twelve months and minimum debt-service coverage reaches 1.47 times. Under the downside case, a six-month delivery delay, service credits and customer concentration reduce minimum coverage to 0.93 times before reserves and amortisation controls. Every amount, rate, date and performance outcome is a management assumption used solely to demonstrate the framework.

The central conclusion is that a take-or-pay contract supports project debt only when payment obligations match capacity that the borrower can deliver, customer defences and termination rights are understood, completion and technology risks are funded, cash is controlled, and lenders can preserve or transfer the operating platform after default. Uncertainty should be reflected through conditions precedent, tranching,

reserves, amortisation, concentration limits, performance covenants, cash sweeps, direct agreements, step-in rights and sponsor support.

JEL Classification: G21, G23, G31, G32, L86, L94, Q40

Keywords: AI compute, project finance, take-or-pay, capacity contracts, GPU cloud, data centres, debt sizing, covenants, offtake

Introduction

AI infrastructure combines characteristics of project finance, equipment finance, real-estate finance and technology credit. A project can own or lease a powered data-centre shell, purchase specialised processors and networking equipment, operate a cloud platform and sell capacity under multi-year contracts. Each layer has a different construction sequence, useful life, counterparty and enforcement route. A capacity contract can connect the layers to revenue, yet it can also transfer substantial delivery and performance risk back to the project company.

Public disclosures show the emerging model. CoreWeave states that customers generally purchase specified capacity under multi-year take-or-pay contracts and that it primarily finances infrastructure development through asset-level debt supported by those contracts [1-4]. Public filings also describe prepayments, remaining performance obligations, availability credits, delivery delays, concentration and the right to resell certain capacity. Core Scientific has disclosed long-term infrastructure arrangements with fixed payments, annual escalators, capital responsibilities and customer-linked remedies [5-7]. These disclosures illustrate possible structures and risks; they do not provide a template for another project.

The demand environment is large and location-specific. The IEA reported approximately 415 TWh of global data-centre electricity consumption in 2024 and projected substantial growth through 2030 [8-11]. The US Department of Energy reported approximately 176 TWh of US data-centre electricity use in 2023 and projected a range of 325 TWh to 580 TWh in 2028 [12-14]. National demand does not establish power availability, customer demand or financeability at an individual site.

This paper is designed for project sponsors, AI-cloud operators, data-centre developers, infrastructure investors, commercial banks, private-credit funds, equipment financiers, customers and advisers. It provides a transaction and credit framework. It does not provide legal, tax, accounting, regulatory, engineering, cybersecurity or investment advice. The relevant specialists should assess the executed documents, jurisdiction, technology, counterparties and project.

1 Define the capacity product before valuing the contract

The first task is to define what the customer has committed to buy. Capacity can refer to reserved electrical load, critical IT megawatts, accelerator count, accelerator hours, cluster access, storage, network throughput, platform services or a bundle. A headline contract value has limited credit meaning until the unit, location, start date, performance standard, price, escalation and billing basis are clear.

The project should maintain a capacity-unit schedule. It should reconcile contracted megawatts to racks, processors, memory, networking, cooling and power. It should identify whether capacity is dedicated or pooled, whether the provider may substitute hardware, whether the customer can move workloads between sites, and whether unused capacity can be resold. The schedule should separate installed, tested, available, customer-accepted, reserved, billable and utilised capacity.

Take-or-pay language should be analysed within the complete bargain. A customer can have an unconditional minimum payment after acceptance and still retain rights before acceptance, for chronic service failure, force majeure, security breach, regulatory change or provider default. A termination payment may be capped, discounted, subject to mitigation or disputed. Lenders should model the enforceable net payment under each relevant state rather than the marketing label.

Table 1 Capacity-contract definition matrix

Dimension	Evidence	Credit question	Model treatment
capacity unit	schedule, architecture and order form	what exact service is reserved	convert to one controlled unit register
location	site list and relocation right	must service come from one facility	test site-specific completion and portability
commencement	readiness, acceptance and long-stop terms	when does minimum payment begin	recognise cash only after supported trigger
availability	service level and measurement method	what performance earns the reservation charge	deduct realistic credits and outages
price	fixed charge, usage, pass-through and escalation	which cash is predictable	separate fixed, variable and reimbursable cash
substitution	hardware and platform flexibility	can obsolete assets be replaced without consent	model upgrade cost and approval risk
resale	provider remarketing right	can unused capacity serve another customer	recognise only executable residual demand

Proposed diligence structure; contract interpretation requires qualified counsel.

The output should be a capacity register that reconciles legal terms, engineering configuration and financial model. Every revenue line should point to a defined capacity unit and payment obligation.

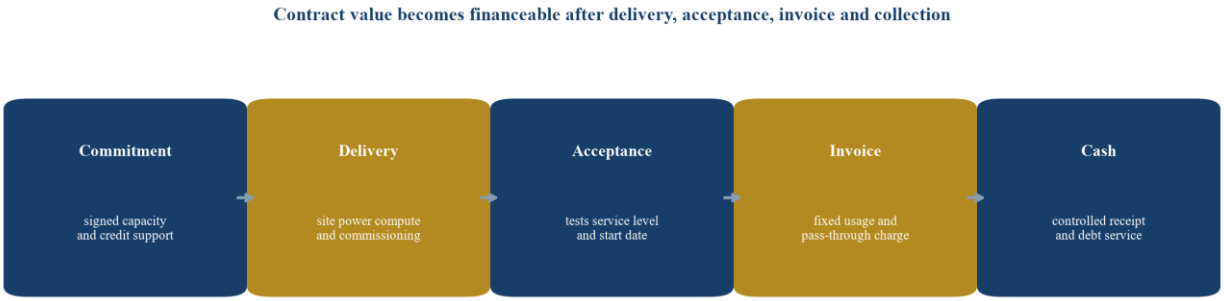
2 Convert take-or-pay language into a cash-flow schedule

A lender needs a contract-to-cash schedule, not total contract value. The schedule should show reservation charges, usage charges, power reimbursement, implementation fees, prepayments, credits, taxes, pass-through items, billing dates, payment terms and security. It should identify amounts that can be netted, withheld, disputed or refunded.

Remaining performance obligations are an accounting disclosure and can provide useful evidence of committed revenue. They do not automatically equal lender cash flow. Timing, variable consideration, service credits, termination, delivery delay and accounting recognition affect conversion [1-4,38-42]. A credit model should begin from executed payment obligations and operating capability rather than an aggregate RPO balance.

The model should distinguish prepayment from free cash. A customer deposit may fund equipment, reduce future invoices, support a refund obligation or sit in a restricted account. It can improve liquidity and create performance exposure. The financing documents should state its permitted use, ranking, refund conditions and treatment on termination.

Figure 1 Contract-to-cash evidence chain



Proposed project-finance sequence; each transition requires executed evidence and operating performance.

The cash schedule should include a monthly bridge from gross contracted charges to collected cash available for debt service. This exposes timing gaps that annual revenue forecasts can hide.

3 Underwrite customer credit and concentration

The value of a minimum payment depends on the obligor. The underwriting file should identify the legal customer, parent, guarantor, credit-support provider and source of payment. A strong brand does not substitute for an executed obligation from the relevant entity. The lender should assess financial capacity, business dependence on the service, competing commitments and structural subordination.

Customer concentration can create a project-finance strength and a refinancing weakness. One investment-grade or well-capitalised counterparty can support construction and simplify operations. A single customer can also control acceptance, disputes, renewals and facility value. The model should show debt service after the largest customer, largest site and largest capacity block are stressed.

The diligence team should examine reciprocity and circularity. A customer may invest in the sponsor, supply technology, provide cloud distribution, lease capacity or receive warrants. Those relationships can align incentives and can cause the same economic support to be counted more than once. Every equity contribution, prepayment, purchase obligation, guarantee and receivable should be traced to its ultimate funding source.

Table 2 Customer-credit and concentration scorecard

Dimension	Evidence	Downside question	Facility response
obligor identity	executed contract and entity records	which entity must pay	lend against named enforceable obligation
financial capacity	audited accounts, filings and liquidity	can the obligor pay through a downturn	set eligibility and reporting thresholds
guarantee	form, cap, tenor and governing law	does support cover all payment obligations	require direct enforceable support
concentration	revenue, capacity and site shares	what happens after the largest exposure fails	haircut, reserve or diversification covenant
strategic dependence	workload migration and alternatives	will the customer preserve the contract	test switching and replacement economics

Dimension	Evidence	Downside question	Facility response
reciprocal exposure	equity, supply, warrants and resale	is support funded by the project itself	remove circular value from borrowing base
dispute history	credits, claims and payment record	how reliably does invoiced cash convert	use collected-cash performance tests

Proposed credit record; ratings and legal conclusions require current evidence.

The customer score should drive advance rate, amortisation and reserve requirements. It should be refreshed when financial condition, contract use or strategic relationships change.

4 Reconcile delivery obligations with customer remedies

Take-or-pay begins to support debt only when the provider satisfies its delivery obligations. The contract should define facility, capacity, hardware, software, network, power, commissioning, security, compliance and service commencement. Customer dependencies should also be stated, including forecasts, technical information, testing, connectivity and timely decisions.

Acceptance can be objective, deemed or discretionary. Objective tests reduce ambiguity when they specify measurement period, workload, benchmark, tolerance, retest and evidence. Deemed acceptance can protect the provider when a customer delays testing, provided the mechanism is enforceable. A broad customer-satisfaction condition can defer payment and weaken the contract.

Remedies require a complete hierarchy. Service credits can reduce revenue. Chronic failure can create termination. Delivery delay can trigger liquidated damages, refund, alternative capacity or cancellation. Security events can create suspension or termination. A liability cap may exclude defined matters. The lender should model remedies before treating the minimum charge as fixed.

Table 3 Delivery obligation and remedy matrix

Event	Provider obligation	Customer remedy	Credit control
delayed site	deliver by milestone and long-stop date	refund, damages or termination	completion support and delayed draw
failed acceptance	satisfy objective technical tests	retest, remediation or rejection	independent testing and contingency
availability shortfall	meet measured uptime and performance	service credit or fee reduction	revenue haircut and performance covenant
chronic failure	restore sustained service	termination or migration support	reserve, cure plan and replacement operator
security breach	protect systems and notify	suspension, damages or termination	cyber controls, insurance and event reporting
regulatory restriction	maintain lawful service	relocation, change or termination	jurisdictional review and portability plan
customer delay	provide access, tests or information	schedule relief or deemed acceptance	documented dependency and notice process

Proposed contract review; enforceability depends on drafting, facts and governing law.

The remedy model should connect each event to cash, reserve, covenant and default treatment. This prevents a contractual protection from being mentioned in diligence and omitted from debt sizing.

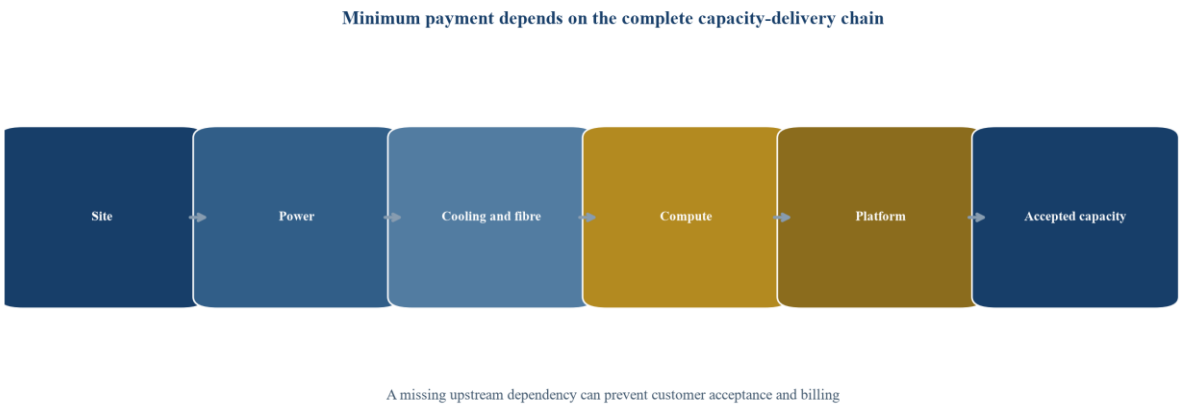
5 Make power and site readiness conditions to capacity debt

AI compute cannot be delivered without a controlled site, firm enough power, cooling, fibre and operating approvals. The credit file should distinguish requested, studied, reserved, contracted, energised and operating power. It should identify network upgrades, deposits, cost responsibility, curtailment, backup and long-stop dates. FERC and NERC materials demonstrate the growing attention to large-load interconnection, co-location, reliability and cost allocation [15-21].

Site readiness includes property rights, permits, access, environmental conditions, water or cooling strategy, network diversity and insurance. A capacity contract may specify a location or allow relocation. A relocation right has value only when alternative powered capacity, hardware, approvals and connectivity can be delivered within the contractual time.

The lender should require a dated dependency schedule covering utility, landlord, contractor, equipment vendor, network carrier, platform and customer. Each dependency should identify evidence, remaining cost, responsible party, remedy and latest safe date. A customer commitment that starts before the physical chain can be delivered creates liability rather than collateral.

Figure 2 Capacity-delivery dependency map



Proposed dependency architecture; project evidence should establish every link.

Power and site conditions should be satisfied before the matching debt tranche becomes available. This aligns funding with assets that can support the contracted service.

6 Build a controlled sources-and-uses stack

The funding plan should separate real estate, power, compute, platform and reserves. Long-lived property and grid assets can support longer-dated capital after completion and transferability are proved. Compute equipment needs amortisation within a conservative economic life. Platform development and customer-acquisition costs usually require equity or subordinated capital because their recovery depends on execution.

Each source should identify borrower, commitment, use, availability, tenor, repayment, security, guarantee and intercreditor position. Customer prepayments should not be counted simultaneously as unrestricted equity, revenue and debt-service cash. Sponsor equity should be funded in a sequence that preserves completion incentives. Public incentives should be recognised only when controlled and transferable.

Management assumes a USD 1.20 billion illustrative project comprising USD 300 million of site, shell and cooling; USD 160 million of power and network infrastructure; USD 570 million of compute and platform assets; and USD 170 million of fees, interest, working capital and reserves. Funding comprises USD 510 million of construction debt, USD 260 million of equipment debt, USD 290 million of sponsor equity and USD 140 million of customer cash. These are management assumptions.

Table 4 Illustrative funding stack

Source	Amount	Primary use	Key availability control
construction facility	510	site, shell, cooling, power and network	monitor-certified cost and completion tests
equipment facility	260	accelerators, networking and installation	delivery, title, serial record and acceptance
sponsor equity	290	first-loss cost, platform and contingency	funded ahead of or proportionately with debt
customer prepayment	140	contract-specific capacity build	restricted use and refund reserve
total	1,200	complete project and reserves	sources equal controlled uses

All amounts are management assumptions in USD millions.

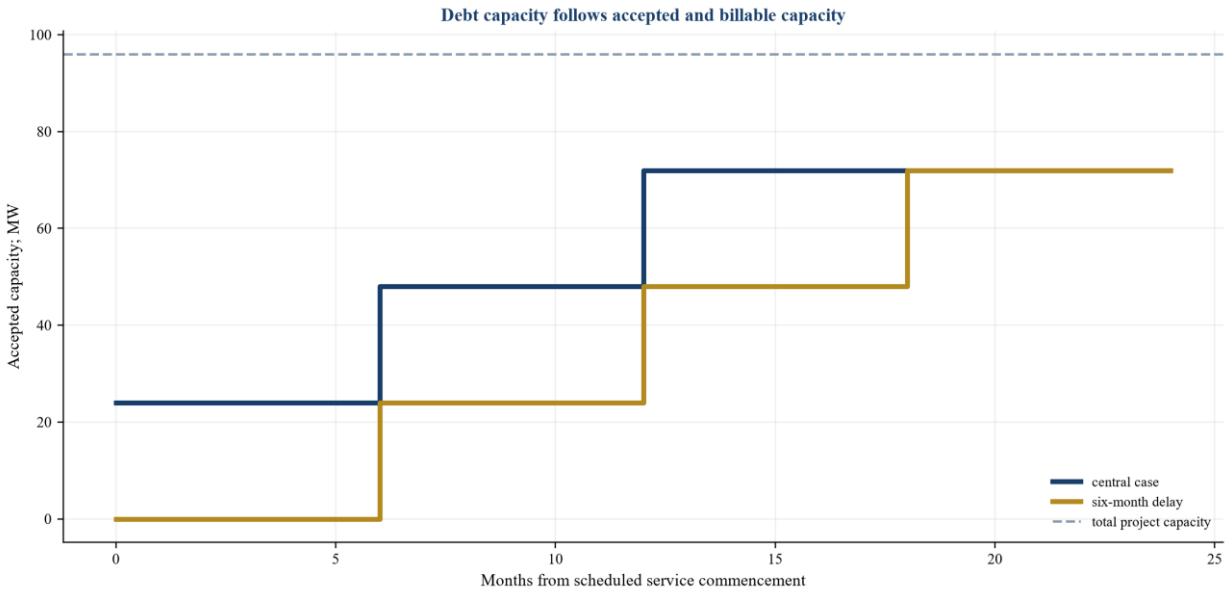
Intercreditor arrangements should allocate security, proceeds, cure rights, enforcement control and asset-release conditions. A project-wide default can require coordinated operation even when lenders finance different layers.

7 Size debt from deliverable and billable capacity

Debt sizing should begin with capacity that can be delivered, accepted and billed within the contract period. The model should not apply an advance rate to headline total contract value. It should deduct pass-through costs, service credits, taxes, operating cost, maintenance, upgrade expenditure, reserve funding and senior claims before debt service.

Management assumes 96 megawatts of critical IT capacity and a six-year commitment for 72 megawatts. The central ramp reaches 24 megawatts at service commencement, 48 megawatts after six months and 72 megawatts after twelve months. The remaining 24 megawatts is uncontracted and receives no debt value until supported by an eligible commitment or collected merchant revenue.

Figure 3 Illustrative contracted-capacity ramp



Capacity and timing are management assumptions and do not describe an identified project.

The model should calculate debt capacity under contracted, delayed, partially accepted, service-credit and customer-default cases. Advance rates can vary by customer credit, contract term, delivery status and residual asset value. The lowest supported constraint should govern.

8 Model utilisation separately from minimum payment

A take-or-pay charge can reduce revenue volatility while utilisation continues to affect cost, performance, renewal and residual value. The project should model reserved capacity, actual workload, billable usage, power consumption and gross margin separately. Underutilised dedicated equipment can still earn a reservation fee and lose relevance before renewal.

High utilisation can create another risk. Capacity can exceed cooling, network or reliability limits. Bursty workloads can affect power and service performance. The operator needs scheduling, observability, maintenance and spare capacity. Customer contracts should define how performance is measured during demand spikes and maintenance.

The renewal case should not assume that paid but unused capacity will renew. The customer may reduce commitment, migrate to a different platform, adopt more efficient models or benefit from lower market pricing. The lender should amortise debt within the firm contract and conservative equipment life, leaving a manageable refinancing exposure.

Table 5 Capacity and utilisation states

State	Contract status	Operating condition	Credit implication
reserved and accepted	fixed charge payable	capacity ready, low workload	near-term cash supported; renewal risk remains
reserved and utilised	fixed and usage charges	active workload and proven service	strongest evidence of strategic dependence
installed and unaccepted	payment not yet triggered	testing or defect unresolved	completion exposure, not operating cash
accepted with credits	charge reduced by performance remedy	service issue persists	haircut revenue and test cure plan

State	Contract status	Operating condition	Credit implication
uncontracted available	no minimum payment	merchant or remarketing option	exclude until demand is evidenced
obsolete or stranded	contract ended or asset rejected	limited compatible demand	use tested liquidation or redeployment value

Proposed operating and credit classification.

Utilisation reporting should be cohort-based by hardware, site and customer. Aggregates can conceal underperforming assets and concentrated workloads.

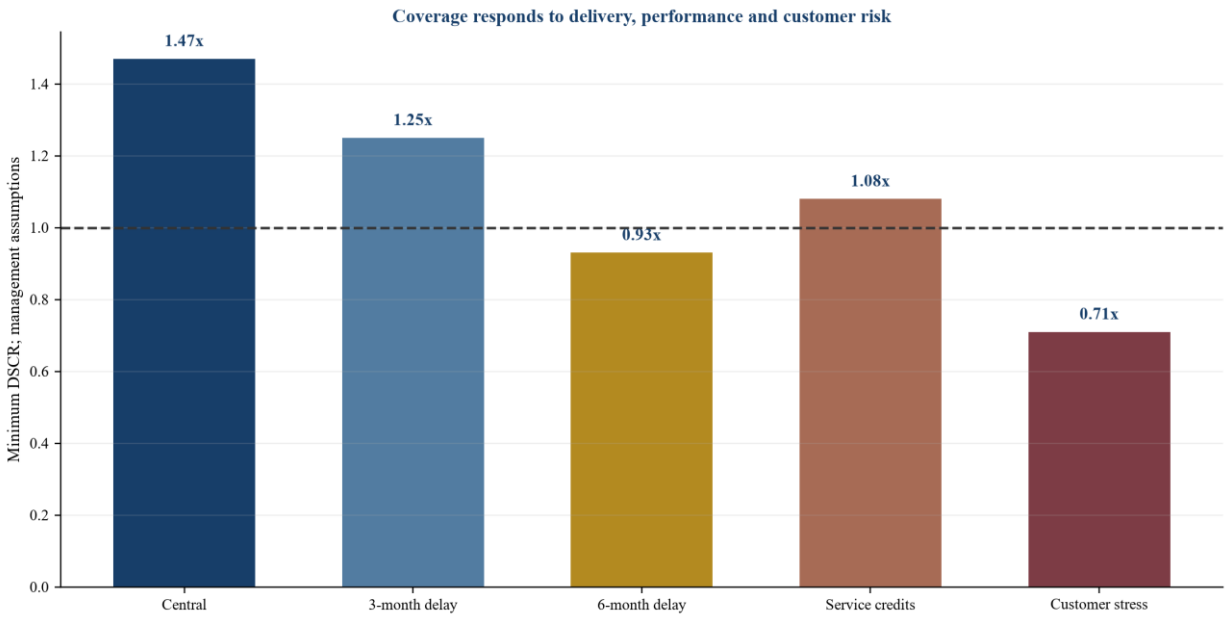
9 Build the debt-service and reserve model

Cash available for debt service should begin with collected customer cash. It should deduct power, hosting, network, maintenance, software, staffing, taxes, working capital and required capital expenditure. Pass-through power reimbursement should be matched to actual cost and timing. A gross invoice that includes reimbursed electricity should not inflate debt-service coverage.

The waterfall should allocate operating cost, taxes, senior debt service, reserve replenishment, required capital expenditure, junior debt and distributions. Prepayments and termination payments require separate treatment. Cash should move through controlled accounts with defined permitted withdrawals.

Management assumes minimum central-case debt-service coverage of 1.47 times after ramp. A downside with six months of delay, service credits, additional operating cost and slower collection reduces minimum coverage to 0.93 times before reserve use and amortisation controls. A debt-service reserve, interest during construction, completion support and cash sweep are assumed to restore liquidity while preserving lender remedies.

Figure 4 Illustrative debt-service coverage sensitivity



All ratios are management assumptions and do not describe an identified financing.

Coverage should be calculated on forward and historical bases, with clear treatment of restricted cash, one-off receipts and maintenance capital. Lock-up and default thresholds should provide time for corrective action.

10 Design a covenant and borrowing-base package

The covenant package should connect contractual performance to credit control. Financial covenants can include debt-service coverage, liquidity, leverage and reserve requirements. Operating covenants can include available capacity, service levels, customer concentration, eligible contract value, power readiness, equipment maintenance, insurance, security and reporting.

A borrowing base can recognise eligible contracted cash flow after haircuts for customer credit, remaining term, delivery status, performance, concentration and dispute. Unaccepted capacity, disputed invoices, cancellable options and unsupported residual value should be excluded. The borrowing base should decline as contract term shortens unless amortisation reduces debt at least as quickly.

Table 6 Covenant and borrowing-base controls

Control	Measurement	Early-warning trigger	Possible response
eligible contracted cash	present value of supported net receipts	contract amendment or credit downgrade	haircut and mandatory prepayment
delivery coverage	accepted capacity versus scheduled capacity	milestone delay or failed test	stop draw and require cure plan
service performance	availability and credit rate	rising credits or chronic failure	reserve, remediation and cash trap
customer concentration	eligible cash by obligor	exposure above approved limit	reduced advance rate or diversification
DSCR	cash available versus debt service	forward ratio below lock-up	distribution block and cash sweep
liquidity	unrestricted and controlled reserves	reserve below minimum	sponsor cure or draw stop
asset condition	cohort age, utilisation and maintenance	obsolescence or unsupported hardware	accelerated amortisation and upgrade plan

Proposed structure; thresholds require project-specific modelling and legal drafting.

Information rights should include contracts, invoices, collections, utilisation, service credits, incidents, power status, equipment records, customer credit and forecasts. Data definitions should be fixed and auditable.

11 Control completion, ramp and technology risk

Completion requires an integrated test across building, power, cooling, network, compute and platform. A shell can be physically complete while the project cannot deliver the contracted workload. The independent engineer should review design, procurement, construction, commissioning, capacity tests, schedule, cost to complete and contingency.

Technology risk requires cohort analysis. Accelerator generations, networking, memory, software and workload compatibility can change within the debt tenor. The project should maintain serial-level records, warranties, vendor support, spares, maintenance and upgrade paths. Residual value should be based on tested redeployment or sale routes rather than original cost.

Contract flexibility can mitigate obsolescence when the provider may substitute equivalent or better hardware and move workloads. It can create capital risk when equivalence is disputed or upgrades are unfunded. The financing plan should include maintenance and refresh capital consistent with the service promise.

Completion support should cover delay, cost overrun, failed tests and refund obligations until an objective completion date. Support can come from sponsor equity, standby facilities, guarantees, performance bonds, liquidated damages and insurance. The lender should assess the source, amount, expiry and enforceability of each support instrument.

12 Address revenue recognition and financial reporting

Financial reporting can inform credit and should not replace contract analysis. IFRS 15 requires identification of contracts, performance obligations, transaction price and satisfaction of obligations [38-40]. Variable consideration, service credits, prepayments, contract modifications and significant financing components may affect timing. US GAAP disclosures can provide related evidence for SEC registrants [1-7,41-42].

The project should reconcile contract billing, revenue recognition, deferred revenue, RPO, receivables and cash collection. Differences should be explained by timing, performance, variable consideration and accounting policy. The lender's debt-service model should use cash available under financing documents.

Debt, leases and financial guarantees require accounting review under applicable standards [43-46]. Special-purpose entities, related-party arrangements and customer financing should be transparent. A structure can be off the sponsor's consolidated balance sheet and remain economically dependent on sponsor or customer support.

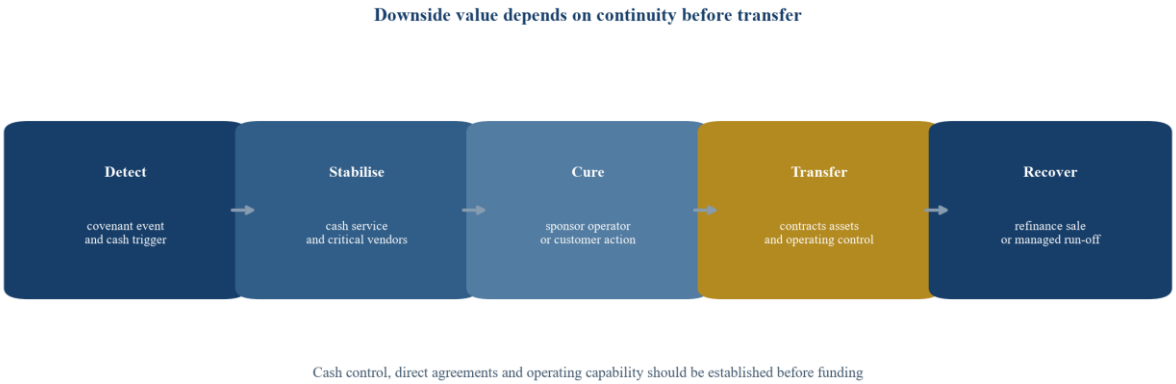
Auditor, valuation and tax advice should be obtained for the actual project. The credit committee should retain its own view of cash, asset control and downside recovery.

13 Prepare the downside transfer and enforcement plan

Project debt requires a credible route after default. Lenders should know whether contracts, power rights, site interests, licences, equipment, data and staff can transfer to a replacement operator. Consent, cure, assignment and step-in provisions should be aligned across documents. A direct agreement with the customer can preserve service while lenders cure or transfer.

The downside plan should distinguish a temporary operating failure from a failed business model. A replacement operator may restore service when assets and contracts remain viable. Remarketing can help when hardware and power are transferable. Liquidation value can be weak when equipment is specialised, obsolete, encumbered or expensive to remove.

Figure 5 Downside control and transfer sequence



Proposed enforcement roadmap; execution depends on contracts, law, assets and operating capability.

Cybersecurity and operational resilience matter during enforcement. Access keys, monitoring, incident response, customer data and vendor support must remain controlled. NIST and CISA frameworks can inform governance and recovery planning [31-37].

14 Apply the board decision framework and conclude

The board and credit committee should receive one evidence-based decision paper. It should contain the capacity register, contract-rights matrix, customer-credit analysis, dependency schedule, sources and uses, construction plan, utilisation curves, cash waterfall, debt sizing, covenants and downside transfer plan. Verified facts, specialist opinions, management assumptions and unresolved items should remain separate.

Five questions govern the decision. First, which capacity is legally committed and physically deliverable? Second, when does the customer's minimum payment become unconditional and what remedies can reduce it? Third, how do customer credit, concentration and reciprocal relationships affect net support? Fourth, does debt amortise within the firm contract and conservative asset life? Fifth, can lenders preserve service or transfer the platform after default?

The approval should state maximum debt, required equity, reserve levels, completion support, advance rates, covenant thresholds, permitted distributions and conditions precedent. It should record the downside cases that remain acceptable and the events that require repricing, prepayment or stop-funding.

Implementation should follow staged gates. Before first draw, the project should evidence site control, permits, power route, executed customer contract, customer credit, equity and cost-to-complete. Before equipment debt, it should evidence purchase orders, title, delivery, insurance and compatible facility readiness. Before term conversion, it should evidence commissioning, customer acceptance, billing, collection and sustained service.

Practical execution controls

The project should begin with one controlled term sheet that reconciles the commercial contract and financing model. The term sheet should state the committed capacity unit, delivery location, contract term, price, escalation, power treatment, prepayment, service commencement, acceptance, availability standard, credits, termination, guarantee and transfer rights. The sponsor, customer, technical adviser and lenders should use the same defined terms. Differences between sales, engineering and finance definitions should be resolved before debt sizing.

A contract abstract should sit beside the executed documents. It should quote or cite the operative clause for every model input. The abstract should identify amendments, side letters, order forms, service schedules and negotiated exceptions. It should also record governing law, dispute process, notice addresses and consent requirements. Model inputs that cannot be traced to an executed document should remain management assumptions and receive no borrowing-base value until verified.

The delivery baseline should join the contractor schedule, utility programme, equipment plan, platform release and customer test. Each milestone should have a planned date, contractual date, evidence source, responsible party, predecessor, available float and remedy. An integrated schedule allows the credit committee to see whether customer payment begins before the project can satisfy its own dependencies. It also allows contingency to be placed on the actual critical path.

Procurement controls should distinguish reservation, purchase order, vendor acceptance, manufacture, shipment, title, delivery, installation, commissioning and warranty. Accelerators and network equipment can require early deposits. The facility should release those deposits only against approved vendors, documented specifications, refund or security rights and a site schedule capable of receiving the assets. Serial-level records should follow the equipment into the collateral register.

Cost control should reconcile committed, incurred, paid, forecast and remaining amounts. Contingency should be allocated by risk and remain controlled. A percentage-complete report can mislead when expensive equipment is delivered while power or cooling remains incomplete. The independent monitor should report physical progress, critical-path progress, cost to complete, contingency sufficiency and the effect of each change on contractual delivery.

Customer acceptance should be rehearsed. The operator should use the agreed workload, measurement window, test data, software version and performance thresholds. The rehearsal should record defects, cure time, customer dependencies and evidence format. A successful internal benchmark provides useful preparation and does not replace acceptance when the contract requires customer action or an independent certificate.

Billing readiness requires more than acceptance. The project should test meter data, capacity records, power pass-through, service credits, tax, invoice format, purchase-order references and customer portals. It should confirm who approves the invoice and how disputes are escalated. A billing rehearsal can identify administrative failures that delay cash despite operating service.

Collections should be monitored at invoice level. Reporting should show issue date, due date, amount, deductions, dispute, receipt and controlled-account credit. Unexplained late payment should reduce eligibility. Cash collected outside the controlled account should be swept promptly. The lender should have visibility into offsets, credits and refunds that can reduce later receipts.

Capacity remarketing should be evidenced before receiving downside value. The project should identify compatible workloads, sales lead time, price, migration effort, customer acquisition cost and any contractual restriction. A general claim of strong AI demand does not establish replacement revenue at the site, hardware generation and service level in question. Residual value should use observed transactions or executable demand with appropriate cost and timing deductions.

The technology-refresh plan should identify which components can be upgraded without changing power, cooling, network, software or customer acceptance. It should show capital cost, downtime, vendor dependencies and treatment under the customer contract. A reserve or equity commitment should fund required refreshes. Optional upgrades should pass a return test and should not consume cash required for debt service or contractual performance.

Power cost needs a separate control account when it is passed through. Meter boundaries, loss factors, demand charges, network charges, balancing, certificates, taxes and backup generation should reconcile to the customer formula. Timing differences can create working-capital exposure even when the customer

ultimately reimburses cost. The model should include the largest monthly cash gap and the facility should fund it.

Service-level management should link operating data to financial consequences. The operator should calculate availability using the contractual method, classify exclusions, identify affected capacity, estimate credits and issue customer reports. Credit calculations should be reconciled to invoices. A rising credit trend should trigger technical review and a forward DSCR test before it becomes a chronic-failure event.

Cybersecurity reporting should reflect the customer's contract and the lender's continuity interest. The project should maintain access governance, vulnerability management, incident response, backup, recovery, vendor controls and customer notification. A material incident can affect service, termination and reputation even when physical capacity remains available. The financing documents should require prompt event notice and a funded remediation plan.

Insurance should be mapped to the risk timeline. Builder's risk, delay in start-up, property damage, machinery breakdown, cyber, business interruption and liability cover can respond to different events. The insured entity, period, limit, deductible, exclusions, loss-payee status and reinstatement need review. Insurance proceeds should enter the controlled waterfall and support restoration or mandatory prepayment under defined conditions.

The sponsor should prepare a quarterly evidence pack. It should include the capacity register, delivery schedule, cost report, customer-credit update, service performance, invoices, collections, utilisation, equipment condition, power status, covenant calculations, reserves and forecasts. Each item should reconcile to source systems and name an accountable owner. The pack should preserve prior periods so that trend and model drift can be observed.

Stress testing should be linked to actions. The project should model delay, partial acceptance, service credits, customer downgrade, payment delay, power-cost mismatch, equipment failure and contract termination. Each case should state liquidity, DSCR, covenant date, reserve use and management response. Compound cases matter because delay can coincide with higher interest, lower equipment value and customer renegotiation.

Distribution policy should remain subordinate to evidence. Dividends should require historical and forward coverage, funded reserves, no default, current delivery and performance, and a compliant borrowing base. A cash sweep should accelerate debt when utilisation, customer credit or contract term weakens. This preserves flexibility before a refinancing deadline becomes unavoidable.

The project should also maintain a refinancing and exit calendar. It should identify debt maturities, contract expiry, renewal windows, hardware refresh, power-renewal dates and customer notice periods. Refinancing preparation should begin while the remaining contract term still supports credit. Waiting until the customer can reduce or terminate the commitment can materially weaken lender options.

Finally, the board should establish a stop-funding rule. Additional debt should stop when a required contract, power, construction, equipment, acceptance, credit or liquidity condition is not evidenced within the approved threshold. The rule should identify who can authorise a cure, the maximum cure period and the capital source. This converts governance from retrospective reporting into an active protection for project value.

Independent verification should be proportionate to the risk. The engineer can verify construction, power, cooling, compute installation and acceptance evidence. The model auditor can test formulas, timing, tax, reserves and covenant calculations. Counsel can analyse the contract, security, direct agreements, permits and transfer rights. Cybersecurity specialists can test the controls relevant to service continuity. Each adviser should state scope, assumptions, reliance and unresolved matters.

The financing model should retain an audit trail from source evidence to output. Contract rates, capacity, dates, power assumptions, operating costs and remedies should have source references. Formula changes should be controlled. Scenario inputs should be separated from observed results. A model that cannot reproduce the lender case from approved evidence should not govern a draw or distribution decision.

Related-party arrangements require specific review. A sponsor affiliate may develop the site, supply power, lease equipment, operate the platform or purchase capacity. The structure should document pricing, service, payment priority, termination, transfer and conflicts. The credit case should remove cash or guarantees that depend on circular funding within the same group. Independent customer cash and externally enforceable support should remain visible.

Environmental and community obligations can affect construction and operation. Water, backup generation, noise, emissions, grid cost and land use can influence permits, tariffs and stakeholder acceptance. The cost plan should fund the applicable controls and monitoring. Sustainability-linked claims should be supported by the actual power and operating arrangement rather than a generic corporate commitment.

Tax and jurisdiction also affect the cash chain. Withholding, value-added tax, customs, import duties, permanent establishment, transfer pricing and incentive conditions can change project cash. Cross-border guarantees, account security and equipment ownership require local analysis. The model should use after-tax cash available in the borrower structure and should not rely on an incentive until eligibility and transferability are evidenced.

A transaction readiness room should be organised around lender questions. Core folders should cover contracts, customer credit, corporate structure, site, permits, power, engineering, construction, equipment, platform, cybersecurity, insurance, environment, financial model, tax, accounting, security and enforcement. Every material model input should link to a document or named management assumption. This structure reduces rework and exposes evidence gaps before formal underwriting.

The board should refresh the approval when a material assumption changes. Triggers can include customer downgrade, contract amendment, site relocation, delivery delay, power change, hardware substitution, cost overrun, service incident, regulatory action or financing change. The refreshed decision should show the previous case, new evidence, financial effect, mitigation and requested authority. This preserves accountability as a fast-moving compute project evolves.

Table 7 Board and lender approval gates

Gate	Required evidence	Decision	Failure response
contract	executed capacity, payment, remedies and direct agreement	include eligible cash	exclude or haircut unsupported value
customer	obligor credit, guarantee and concentration	set advance rate	reserve, diversify or reduce debt
construction	fixed scope, schedule, permits and funded contingency	open construction tranche	stop draw and require support
power	enforceable service route and funded upgrades	recognise deliverable capacity	delay equipment and revenue credit
acceptance	independent tests and customer confirmation	start term debt	cure, retest or restructure
performance	availability, credits, invoices and collection	permit distributions	cash trap and remediation

Gate	Required evidence	Decision	Failure response
downside	transfer consents, operator and recovery analysis	approve residual reliance	accelerate amortisation

Proposed approval record; each gate requires project-specific evidence.

In the illustrative case, central minimum DSCR of 1.47 times supports the proposed structure only within management's assumptions. The delayed case falls below 1.00 times before controls. The decision therefore depends on tranching, completion support, reserves, cash sweeps and direct contractual rights. A real project should replace every assumption with executed evidence and current specialist advice.

Take-or-pay capacity can support AI compute project finance when the contract and the physical system are underwritten as one cash chain. The relevant collateral is the ability to deliver accepted service, issue enforceable invoices, collect cash and preserve operations through stress. A disciplined structure converts the headline commitment into eligible cash, funds the risks that precede it and gives lenders control when performance departs from plan.

Frequently asked questions

Does a take-or-pay contract guarantee debt service?

No. Debt service depends on the precise payment obligation, provider performance, customer credit, remedies, billing and collection. A minimum payment can begin only after delivery or acceptance and can be reduced by credits, termination rights, set-off or dispute. The complete contract and operating system require review.

What capacity should lenders recognise?

Lenders should recognise capacity that is contractually committed, physically deliverable, accepted or supported by an objective path to acceptance, and linked to eligible net cash. Requested power, ordered equipment, unaccepted capacity and cancellable options should be separately classified.

How should customer prepayments be treated?

The treatment depends on permitted use, refund conditions, ranking and future invoice offsets. A prepayment can fund construction and create a liability if delivery fails. It should not be counted simultaneously as equity, revenue and free debt-service cash.

Why model utilisation when the customer must pay?

Utilisation affects operating cost, performance, strategic dependence, renewal and residual asset value. Paid but unused capacity can produce near-term cash and face weak renewal. High utilisation can create reliability and maintenance risk. Both require monitoring.

How should AI hardware obsolescence affect debt tenor?

Debt should amortise within the firm contract period and a conservative economic life. The analysis should consider workload compatibility, vendor support, upgrade cost, substitution rights, redeployment, secondary-market evidence and removal cost. Original purchase price is not a recovery value.

Which covenants are most relevant?

Relevant controls can include eligible contracted cash, accepted capacity, service availability, customer concentration, DSCR, liquidity, reserves, equipment condition, power status and reporting. Thresholds should derive from the project model and contracts.

What is required for lender step-in?

Step-in requires enforceable security, account control, assignment or direct agreements, cure periods, transfer consents, licences, operating information and a capable replacement operator. The plan should preserve customer service, cybersecurity and critical vendors during transition.

When can construction debt convert to term debt?

Conversion should follow objective completion, commissioning, customer acceptance, billing, collection, funded reserves and satisfaction of financial tests. The exact conditions depend on the project's contracts, jurisdiction, technology and financing documents.

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