



The Debt Service Reserve Account (DSRA) in Project Finance:



Save the Lenders, Save the World

The DSRA: Concept and Mechanics

For the files and resources, go to:

<https://breakingintowallstreet.com/kb/project-finance/debt-service-reserve-account/>

(This is a **summary** from our full [Project Finance & Infrastructure course](#).)

The DSRA: Concept and Mechanics

- **Purpose:** In PF, the DSRA ensures that an asset has enough cash on-hand to meet its upcoming Debt Service in the next period; prevents Equity Investors from contributing to fund it
- **Typical:** Based on Debt Service over the next 2 – 3 months or 1 – 2 quarters and is most relevant for highly seasonal assets, such as solar and wind plants, with fluctuating cash flows
- **Also:** Works well for “unexpected expenses” or “emergency equipment replacements/upgrades”
- **EX:** Investors know that replacements are required in Year 5...



The DSRA: Concept and Mechanics

- **BUT:** Something goes wrong, and these replacements end up costing \$90 million rather than the planned \$22 million
- **CFADS:** Falls from \$178M to \$110M, which is below the scheduled Debt Service for the year
- **DSRA Purpose:** If it's properly provisioned in the prior years, there will be enough cash available to pay the lenders *without* the Equity Investors contributing
- **DSCR:** Still falls below 1.00x, but the "Modified DSCR" is exactly 1.00x for the period



Plan for This Tutorial

- **Part 1:** Why Reserve Accounts in Project Finance? **4:49**
- **Part 2:** Simple DSRA Formulas and Setup **7:14**
- **Part 3:** Added DSRA Complexities **14:43**

Part 1: Why Reserve Accounts in Project Finance?

- **General Idea:** “Smooth out” the cash flows and ensure there’s enough to meet upcoming cash outflows, Debt Service, etc.
- **PF:** Debt is often sized and sculpted based on the future cash flows, and a huge one-time expenditure reduces the CFADS
- **So:** This type of event can significantly reduce the upfront Debt used, even if the rest of the period looks fine
- **But:** If this event is known in advance, **Reserve Accounts** can be a partial solution



Part 1: Why Reserve Accounts in Project Finance?

- **EX:** No huge cash outflows, and CFADS rises by \$5M per year
- **But:** Now let's say there's an \$80M cash outflow in Year 5, which distorts the DSCR in that year ($1.50x \rightarrow 1.20x$)
- **Solution:** Allocate \$16M per year to the Reserves, and withdraw the balance to pay for this \$80M outflow in Year 5
- **Reality:** DSRA Deposits and Withdrawals are normally **below** the CFADS line and don't affect it; this is more an illustration of the "Cash Flows to Equity"



Part 2: Simple DSRA Formulas and Setup

- **Main Purpose:** Ensure that Cash Flow to Equity stays positive
- **Model Setup:** Create “Cash Flow Post-Debt Service” and “Cash Flow Post-Debt Service and Reserves” areas
- **Required DSRA Funding:** Equal to the forward-looking Debt Service minus the Beginning DSRA
- **Actual DSRA Funding:** MIN between the Cash Flow Post-Debt Service and the Required DSRA Funding; must be positive, so put a MAX(0 around it



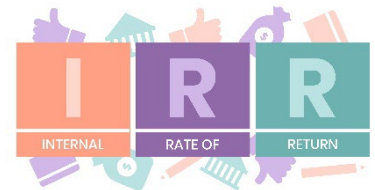
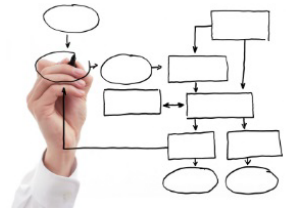
Part 2: Simple DSRA Formulas and Setup

- **Withdraw** from the DSRA if the CFPDS turns negative; flip the CFPDS sign, and take the MAX between that and 0 first
- **Then:** If there is a deficit, take the MIN between this number and the Beginning DSRA
- **So:** Deficit of \$50 and Beginning DSRA of \$120 → Fully covered; but if the Beginning DSRA is \$40, only \$40 is covered
- **Release Excess DSRA:** If the Required DSRA Funding is negative, release some into the cash flows with $\text{MIN}(0$



Part 2: Simple DSRA Formulas and Setup

- **Model Links:** Need to add these Funding and Withdrawal lines below the CFPDS; modify the Returns Calculations, Cash Flow Yield, etc., to point to the “new” cash flow at the bottom
- **Impact:** The DSRA tends to **delay distributions** to the Equity Investors since their cash flows build up this Reserve first
- **So:** The Equity IRR falls due to the time value of money → Reduce the lenders’ risk at the expense of the Equity returns



Part 3: Added DSRA Complexities

- 1. Variable Periods and Non-Annual Models:** May need OFFSET to handle Forward-Looking Periods of variable lengths
- 2. Different Trigger Conditions:** Doesn't necessarily have to be about ensuring cash for Debt Service; could be linked to a DSCR or other credit stat target
- 3. Interactions with Other Reserve Accounts:** In the “cash flow waterfall,” you must order and prioritize other Reserve Accounts, a possible Cash Trap, etc.



Recap and Summary

- **Part 1:** Why Reserve Accounts in Project Finance?
- **Part 2:** Simple DSRA Formulas and Setup
- **Part 3:** Added DSRA Complexities

