

# Admin Phase 3: SDD Fulfillment & Traceability Audit

[!IMPORTANT] This document provides the formal, final assurance that **Admin Phase 3** has been implemented strictly according to the Specification-Driven Development (SDD) contract. It maps specific requirements from the **PRD**, **Mission**, and **Flow** documents to their concrete implementation and verification evidence.

## 1. Compliance Matrix: Mission & Strategic Positioning

Reference Document	Requirement / Principle	Implementation Status	Verification Evidence
admin_phase_3_mission.md	<b>Read-Only / Non-Operational</b> ("Must not introduce new operational controls")	✅ <b>COMPLIANT</b>	All Phase 3 routes (/admin/reports/*) are strictly observation-only dashboards with no mutation capabilities.
admin_phase_3_mission.md	<b>Decision Support</b> (Evaluation periods: month/semester/year)	✅ <b>COMPLIANT</b>	PeriodSelector component implements "Bulan Ini", "Semester Ini", "Tahun Ini" filters with tooltip explanations.
admin_phase_3_mission.md	<b>Formal Reporting</b> (Official artifacts for stakeholders)	✅ <b>COMPLIANT</b>	"Official Report" PDF exports with standardized headers, timestamps, and localized formatting.

## 2. Compliance Matrix: Product Requirements (PRD)

### 2.1 Extracurricular Performance Reporting

Source: admin\_phase\_3\_prd.md Section 3.1, Flow 3

SDD Requirement	Implementation Detail	Fulfillment
<b>Merged Metrics</b>	Combine Enrollment and Attendance data.	✅ <b>FULL</b> - reporting-data.ts aggregates both _count.enrollments and averageAttendance.
<b>Visual Trends</b>	Visualization of top-performing activities.	✅ <b>FULL</b> - TrendChart visualizes top 5 active extracurriculars.
<b>Key Stats</b>	Total Active Enrollments, Avg Attendance, Total Sessions.	✅ <b>FULL</b> - StatSummary component displays these exact metrics at the top of the page.
<b>Localization</b>	Bahasa Indonesia labels.	✅ <b>FULL</b> - UI and Exports use "Total Pendaftaran", "Rata-rata Kehadiran", etc.

### 2.2 Pembina Performance Reporting

Source: admin\_phase\_3\_prd.md Section 3.2, Flow 4

SDD Requirement	Implementation Detail	Fulfillment
Activity Tracking	List activities assigned to each Pembina.	✅ FULL - Table shows "Kegiatan Ditugaskan" mapped from relation.
Session Consistency	Track sessions held vs expected.	✅ FULL - Metric "Total Sesi Terlaksana" displayed per pembina.
Attendance Success	Avg attendance in Pembina's classes.	✅ FULL - "Rata-rata Kehadiran" column included in the report table.

2.3 Student Participation Reporting

Source: admin\_phase\_3\_prd.md Section 3.3, Flow 5

SDD Requirement	Implementation Detail	Fulfillment
Participation Rates	Percentage of student body involved.	✅ FULL - "Rata-rata Partisipasi" calculated and displayed.
Zero Attendance	Identification of at-risk students.	✅ FULL - "Peringatan Nol Kehadiran" metric explicitly highlights inactive students.
Exportability	Ability to download student lists.	✅ FULL - CSV/PDF export buttons functional on this page.

3. Compliance Matrix: User Flows & Navigation

3.1 Reporting Hub

Source: admin\_phase\_3\_flow.md Flow 1 & 2

SDD Requirement	Implementation Status
Central Access	Hub located at /admin/reports with clear cards for sub-reports.
Date Persistence	Selected period persists across navigation via URLSearchParams (startDate, endDate).
Navigation Contract	Links remain within /admin/* namespace.

3.2 Export & Documentation

Source: admin\_phase\_3\_flow.md Flow 6

SDD Requirement	Logic Verification
Format Selection	PDF and CSV options available via ExportToolBar.

Metadata Inclusion	Exports include "Generated: [Timestamp]" and "Period: [Range]" in the header.
Localization	Column headers in exported files match the UI language (Bahasa Indonesia).
Layout	PDF uses <b>Landscape</b> orientation to support wide data tables (robustness enhancement).

## 4. Final Conclusion

Based on the evidence collected in the `admin_phase_3_verification_report.md` (Version 2.0) and the code audit performed on `2025-12-23` :

**Admin Phase 3 is fully compliant with all governing SDD documents.**

- 1. **Scope:** No unapproved scope creep; strict adherence to read-only mission.
- 2. **Features:** All 3 required reports and the central hub are implemented.
- 3. **Quality:** Localization and Export quality exceed baseline requirements (e.g., localized tooltips).
- 4. **Stability:** No lingering lint errors or type safety issues.

**Status: VERIFIED & COMPLETE**