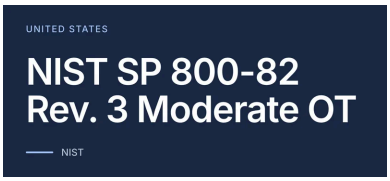
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Framework / Cybersecurity / NIST Special Publications

NIST SP 800-82 Rev. 3, Guide to Operational Technology (OT) Security: OT Overlay, Moderate-Impact Baseline

Moderate baseline of the NIST SP 800-82 Rev. 3 OT overlay: SP 800-53B moderate controls tailored for moderate-impact OT systems, with the Appendix F additions, removals and tailoring rules.



What it is

This page covers the Moderate baseline of the OT overlay in Appendix F of NIST SP 800-82 Rev. 3, Guide to Operational Technology (OT) Security, which NIST published on September 28, 2023. The Moderate baseline applies to an OT system categorized as moderate impact under FIPS 199, which SP 800-53B defines as a system in which at least one of confidentiality, integrity and availability is moderate and none is high (Section 2.2). It is a partial tailoring of the moderate baseline in NIST SP 800-53B (see the SP 800-53B Moderate baseline page), written for federal agencies and open to any other organization on a voluntary basis (F.2).

At a glance

PUBLISHER National Institute of Standards and Technology (NIST)	TYPE Guidance	VERSION Revision 3 OT overlay (September 28, 2023; Revision 4 initial public draft September 2026)
EFFECTIVE September 28, 2023	DOMAIN Cybersecurity	FAMILY NIST Special Publications
REGION United States	ADOPTION MODEL Voluntary	IMPLEMENTATION COMPLEXITY High

Source: csrc.nist.gov/pubs/sp/800/82/r3/final

Why it matters

- **A baseline matched to the impact level** Section 4.3.2 explains the FIPS 199 high-water mark: the system category is the highest impact across its information types, so a system whose maximum impact is moderate selects the Moderate column of Table 22 rather than the Low or High column.
- **Controls added for moderate OT** F.7 adds enhancements that SP 800-53B does not place in its moderate baseline, among them AC-17(10) authenticate remote commands, CP-10(6) component protection, SR-5(1) adequate supply, SC-7(18) fail secure and SC-24 fail in known state, each with a stated rationale.
- **Failure modes decided in advance** CP-12 Safe Mode and SI-17 Fail-Safe Procedures are added to every OT baseline, and the SI-17 OT Discussion says the same failure event may trigger different responses depending on the impact level.
- **Compensating controls without waivers** F.4 states that compensating controls implemented under PL-11 are not exceptions or waivers; they are alternative safeguards that must give equivalent capability and be documented in the security plan.

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How SmartSuite supports NIST 800-82 Rev.3 Moderate OT

Moderate Baseline Control Register

Load the Moderate column of Table 22 as records in Cyber & IT Risk, one per control and enhancement, with the F.7 status (Select, Add or Remove), the OT Discussion and an owner.

Tailoring and Compensating-Control Record

Capture the three F.4 points for each compensating control, the PL-11 decision and the security plan reference in Compliance Management, so the record of equivalence and residual risk is complete.

Security Categorization Evidence

Record the FIPS 199 impact per information type and the resulting system category from Task C-2 in Table 7, so the choice of the Moderate baseline is documented and reviewable.

Safe Mode and Fail-Safe Procedures

Keep the CP-12, SI-17, SC-24 and SC-7(18) decisions, the selected failure states and the written procedures in Operational Resilience & Business Continuity with review dates.

Spare Components and Supplier Records

Track critical OT components, vendors and spare parts strategies for SR-5(1) and the storage conditions for CP-10(6) in Third Party Risk Management.

Remote Access and Nonlocal Maintenance

Maintain the authorizations and reviews for AC-17(9), AC-17(10) and MA-4(1) as records in IT Asset Management (ITAM), linked to each OT asset and maintenance provider.

Common framework mappings

CIS Controls v8.1 | IEC 62443 | ISO 27001:2022 | NERC CIP | NIST CSF 2.0 | NIST 800-53 Rev.5 | PCI DSS 4.0.1 | SOC 2

Official resources

NIST SP 800-82 Rev. 3 Guide

Defines security measures and controls for protecting Operational Technology environments.

csrc.nist.gov/publications/detail/sp/800-82/rev-3/draft

Frequently asked questions

Which OT systems use the Moderate baseline of the SP 800-82 Rev. 3 OT overlay?

Systems categorized as moderate impact under FIPS 199. SP 800-53B Section 2.2 defines a moderate-impact system as one in which at least one of confidentiality, integrity and availability is moderate and none is high, using the high-water mark that Section 4.3.2 of SP 800-82 Rev. 3 also describes. The worked SCADA example in Section 4.3.2 ends with integrity and availability HIGH, so it would use the High baseline, not this one.

What does the Moderate OT baseline add beyond the SP 800-53B moderate baseline?

F.7 marks each addition and states its rationale. Additions for the Moderate baseline include AC-17(10) authenticate remote commands, AT-2(4) anomalous system behavior training, CP-10(6) component protection, MA-4(1) logging of nonlocal maintenance, PE-6(4), PE-22 component marking, SC-7(18) fail secure, SC-24 fail in known state and SR-5(1) adequate supply, plus the controls added to all three baselines such as CP-12 Safe Mode, SI-17 Fail-Safe Procedures, MA-7 Field Maintenance and AU-4(1).

Does the overlay remove any controls from the moderate baseline?

Yes. F.7 removes SC-10 Network Disconnect from the Moderate and High baselines because its intent is covered by AC-17(9) for OT systems, and removes SI-8(2) Spam Protection automatic updates because spam transport mechanisms such as email and web browsing are removed from the OT. Table 22 shows removals with strikethrough.

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Can a compensating control replace a Moderate baseline control?

Yes, under the rules in F.4. When the OT cannot support a control or implementing it would harm performance, safety or reliability, the organization may use an alternative that gives equivalent protection, including a nonautomated procedure. It documents why the baseline control could not be implemented, how the alternative is equivalent and the residual risk accepted, and records the decision in the OT security plan. F.4 says such controls under PL-11 are not exceptions or waivers.

Is the SP 800-82 Rev. 3 OT overlay mandatory, and is a new revision coming?

F.2 says the overlay was prepared for federal agencies and may be used by non-governmental organizations on a voluntary basis. It is a guideline, not a certification. The CSRC record for SP 800-82 Rev. 3 (published September 28, 2023, superseding Rev. 2 of 2015) notes that the initial public draft of Revision 4 is open for comment until November 30, 2026; Revision 3 is the current edition until Revision 4 is final.

License included / downloadable: Yes NIST SP 800-82 Rev. 3, including the OT overlay in Appendix F, is free of charge from NIST through the CSRC publication record and DOI 10.6028/NIST.SP.800-82r3.

Full framework page and mappings: smartsuite.com/frameworks/nist-sp-800-82-rev-3-moderate-ot-overlay-operational-technology-ot

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