

ACTIVE SSC PROJECTS

This section covers the active SSC projects. They constitute the current program. Table 4-1 lists the ongoing SSC projects. The majority of projects span one fiscal year, but there are some multiyear projects funded incrementally on an annual basis.

TABLE 4-1 Active Projects

| SSC Number | FY Project Number | Project Title |
|---------------|----------------------|------------------------------------------------------------------------------------------------|
| SR-1442 | 04-11 | Investigation of Plastic Limit States for Design of Ship Hull Structures |
| SR-1449 | 06-23 | Reliability-Based Performance Assessment of Damaged Ships |
| SR-1450 | 06-11 | Welding Distortion Analysis of Hull Blocks Using Equal Load Method Based on Inherent Strain |
| SR-1451 | 06-12 | Review and Update SSC Website Case Studies |
| SR-1452 | 06-03 | Feasibility, Conceptual Design and Optimization of a Large Composite Hybrid Hull |
| SR-1454 | 07-07 | Buckling Collapse Testing on Friction Stir Welded Aluminum Stiffened Plate Structures |
| SR-1456 | 07-05 | Exact Mapping of Residual Stress |

SUMMARY OF COMPLETED SSC PROJECTS

Table 5-1 lists the reports completed from 1996 to present. Reports published prior to 1996 are included on the SSC CD-ROM Library. Abstracts and/or electronic copies are available on the SSC Internet web site at www.shipstructure.org. These reports are also available from the SSC Executive Director. Requests may be mailed to:

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U. S. Coast Guard
2100 Second St., SW
Washington, DC 20593-0001
or e-mail requests to jeannette.y.grant@uscg.mil

TABLE 5-1 Completed Projects

| Project Number | Report Number | NTIS Number | Project Title | Complete Date |
|----------------|---------------|-------------|------------------------------------------------------------------------------------|---------------|
| SR-1335 | 412 | 00-108444 | Interactive Nature of Cathodic Polarization and Fatigue | Sep 00 |
| SR-1344 | 398 | 97-141584 | Assessment of Reliability of Existing Ship Structures | Apr 97 |
| SR-1345 | 392 | 97-109961 | Probability-Based Ship Design: Implementation of Design Guidelines | Oct 96 |
| SR-1349 | 393 | 97-109979 | Evaluation of Ductile Fracture Models for Ship Structure Details | Jan 97 |
| SR-1356 | 394 | 97-131353 | Strength Assessment of Pitted Plate Panels | Jan 97 |
| SR-1357 | 431 | | Retention of Weld Metal Properties and Prevention of Hydrogen Cracking | Jun 04 |
| SR-1358 | 396 | 97-141600 | Optimized Design Parameters for Welded TMCP Steels | Feb 97 |
| SR-1360 | 395 Vol. 5 | 97-142863 | Fitness for Purpose Evaluation of Critical Structural Details in Tanks | Feb 97 |
| SR-1360 | 395 Vol. 4 | 97-142855 | Fatigue Classification of Critical Structural Details in Tankers | Feb 97 |
| SR-1360 | 395 Vol. 3 | 97-142848 | Repair Management System for Critical Structural Details in Ships | Feb 97 |
| SR-1360 | 395 Vol. 2 | 97-142830 | Study of Fatigue of Proposed Critical Structural Details in 2 Hull Tanks | Feb 97 |
| SR-1360 | 395 Vol. 1 | 97-142822 | Program Summary and Rational Basis for Corrosion Limits on Tankers | Feb 97 |
| SR-1362 | 414 | 00-108446 | Probability-Based Design (Phase 4), Synthesis of the Reliability Thrust Area | Sep 00 |
| SR-1363 | PFSS-95 | 97-141568 | Prevention of Fracture in Ship Structures | Feb 97 |
| SR-1365 | 407 | 99-159881 | Optimal Strategies for the Inspection of Ships for Fatigue and/or Corrosion Damage | Aug 99 |
| SR-1367 | 403 | 98-111651 | Design Guide for Marine Applications of Composites | Dec 97 |
| SR-1368 | 418 | 03-101114 | Compensation for Openings in Primary Ship Structure | Sep 02 |
| SR-1370 | 404 | 98-172455 | Ship Structural Integrity Information System | Sep 98 |
| SR-1373 | 401 | 98-111651 | State of the Art in Hull Monitoring Systems | Oct 97 |
| SR-1374 | 402 | 98-100449 | Guide to Damage Tolerance Analysis of Marine Structures | Oct 97 |
| SR-1375 | 408 | 99-159873 | Detection Probability Assessment of Visual Inspection of Ships | Aug 99 |
| SR-1377 | 397 | 97-141576 | Commercial Ship Design and Fabrication for Corrosion Control | Feb 97 |
| SR-1378 | 399 | 97-156178 | Strength and Stability Testing of Stiffened Plate Components | Apr 97 |
| SR-1379 | 400 | 97-193031 | Weld Detail Fatigue Life Improvement Techniques | Aug 97 |

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| SR-1382 | 411 | 00-108443 | Evaluation of Effect of Construction Tolerances on Vessel Strength | Sep 00 |
| SR-1383 | 420 | 03-101115 | Failure Definition for Structural Reliability Assessment | Sep 02 |
| SR-1384 | 415 | 00-108447 | Crack-Arrest Toughness of Steel Weldments | Sep 00 |
| SR-1385 | 428 | 03-106851 | In-Service Non-Destructive Evaluation of Fatigue and Fracture Properties for Ship Structures | Sep 03 |
| SR-1386 | 405 | 99-159931 | Fatigue Resistant Detail Design Guide for Ship Structures and Short Course on Fatigue and Fracture Analysis of Ship Structures | Aug 99 |
| SR-1388 | 406 | 99-159923 | Sea-Operational Profile for Structural Reliability Assessments | Aug 99 |
| SR-1392 | 413 | 00-108445 | Effect of Welded Stiffeners on Crack Growth Rate | Sep 00 |
| SR-1395 | 410 | 00-108442 | Fatigue of Aluminum Structural Weldments | Sep 00 |
| SR-1396 | 427 | 03-106850 | Life Expectancy Assessment of Ship Structures | Sep 03 |
| | | 05-108997 | Fire Degradation, Failure Prediction and Qualification Methods for Fiber Composites | Sept 05 |
| SR-1397 | 441 | | | |
| SR-1398 | 425 | 03106848 | Fatigue Strength and Adequacy of Weld Repairs | Sep 03 |
| SR-1400 | 422 | 03-101117 | Modeling Structural Damage in Ship Collisions | Sep 02 |
| SR-1403 | 419 | N/A | Supplemental Commercial Design Guidance for Fatigue | Nov 01 |
| SR-1406 | 432 | | Adaptation of Commercial Structural Criteria to Military Needs | Jan 04 |
| SR-1407 | 416 | | Prediction of Structural Response in Grounding Application to Structural Design | Nov 01 |
| SR-1409 | 417 | 00-108448 | Risk Based Life Cycle Management of Ship Structure | Mar 03 |
| SR-1410 | 409 | 00-108441 | Updating the Guide to Damage Tolerance Analysis | Jul 99 |
| SR-1416 | 423 | 03-104869 | Green Water Loading on Ship Deck Structures | Mar 03 |
| SR-1419 | 434 | 04-105931 | Predicting Motion and Structural Loads in Stranded Ships | Mar 04 |
| SR-1420 | 424 | 03-104870 | Evaluation of Accidental Oil Spills from Bunker Tanks (Phase 1) | Sep 03 |
| SR-1422 | 426 | 03-106849 | Post-Yield Stability of Framing | Sep 03 |
| SR-1425 | 435 | 04-105932 | Predicting Stable Fatigue Crack Propagation in Stiffened Panels | Nov 04 |
| SR-1426 | 437 | 05-101706 | Modeling Longitudinal Damage in Ship Collision | Jan 05 |
| SR-1427 | 421 | 03-101116 | Risk-Informed Inspection of Marine Vessels | Sep 02 |
| | | 05-101516 | Effect of Fabrication Tolerances on Fatigue Life of Welded Joints | Jan 05 |
| SR-1428 | 436 | | | |
| SR-1429 | 430 | 04-101321 | Fracture Toughness of A Ship Structure | Nov 04 |
| SR-1430 | 429 | 04-101320 | Rapid Stress Intensity Factor Solution Estimation for Ship Structures Applications | Nov 04 |
| SR-1431 | 433 | 04-105930 | Interactive Buckling Testing of Stiffened Steel Plate Panels | Nov 04 |
| SSS-2k | SSS-2000 | | Ship Structure Symposium 2000 Proceedings | Nov 01 |
| SSS-96 | SSS-96 | | Human and Organizational Error in Marine Structures | Dec 98 |
| | | 05-107484 | Deterioration of Structural Integrity Due to Chemical Treatment of Ballast Water | May 05 |
| SR-1432 | 440 | | | |
| | | 06-101510 | In-Service Non-Destructive Estimation of Remaining Fatigue Crack Initiation Life of Welded Joints | Nov 05 |
| SR-1433 | 444 | | | |
| SR-1435 | 439 | 05-106310 | Comparative Structural Requirements for High Speed Crafts | May 05 |
| | | 05-108998 | Labor-Saving Passive Fire Protection Systems for Aluminum and Composite Construction | Sept 05 |
| SR-1436 | 442 | | | |
| | | 05-104887 | Structural Optimization for Conversion of Aluminum Car Ferry to Support Military Vehicle Payload | Mar 05 |
| SR-1437 | 438 | | | |
| | | 05-109000 | Design Guidelines for Doubler Plate Repairs of Ship Structures | Aug 05 |
| SR-1438 | 443 | | | |
| SR-1439 | 445 | 06-101511 | Structural Survivability of Modern Liners | Nov 05 |
| SR – | | 07-107216 | Comparative Study of Naval and Commercial Ship Structure Design Standards | |
| 1444 | 446 | | | |
| SR – | | 07-107217 | Fatigue and Fracture Behavior of Fusion and Friction Stir Welded Aluminum Components | |
| 1434 | 447 | | | |
| SR-1447 | 448 | | Fracture Mechanics Characterization of Aluminum Alloys for | |

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| | | Marine Structural Applications |
| SR-1441 | 449 | Hydrodynamic Pressures and Impact Loads for High Speed Catamaran / SES |
| SR-1453 | 450 | Ship Structure Committee: Effectiveness Study Mechanical Collapse Testing on Aluminum Stiffened Panels for Marine Applications |
| SR-1446 | 451 | |
| SR – 1448 | 452 | Aluminum Structure Design and Fabrication Guide |
