



Mission Success Starts With Safety

What's New in SMA Training

NASA Safety Director's Annual Meeting

3/22/01

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*Protecting the Public, Astronauts and Pilots, the NASA Workforce, and
High-Value Equipment and Property*



SMA Training/Education

- **Two Primary SMA Training/Education Initiatives:**
 - **SMA Professional Development Initiative (PDI)**
 - **Agency Safety Initiative (ASI)**



Code Q Strategic Plan (Circa 1994)

- Had five main goals, one of which was:
“Development of a Safety and Mission Assurance (SMA) Team which is highly motivated, trained, and properly equipped”

Note: This goal still exists today in Code Q’s current “Functional Plan”



Professional Development Initiative (PDI)

- **Established by Charter by Code Q In 1995**
 - to develop, institutionalize, and continually improve a comprehensive training and career development program for NASA Safety and Mission Assurance professionals
 - provide related SMA education/training for NASA project managers, engineers, and procurement professionals.
- **Guiding Principles:**
 - Build on existing capabilities
 - Ensure use of unified, state-of-the-art S&MA practices
 - Plan for a cultural shift from highly-specialized and compartmentalized employees to a broadened skill base of SMA generalists
 - Provide a means for S&MA staff to professionally develop to their full potential



**Professional Development Initiative (PDI) -
Our Approach: A Hybrid IBT and WBT Delivery**

- **IBT – Breadth of Existing Coursework and Experiential Capability**
- **WBT – Ability to Keep Pace with Changing Courseware/Curricula**



Professional Development Initiative (PDI) - System Development & Expansion

- **NASA Professional Development Initiative (PDI) Web-site (1996 - Present)**
 - **PDI is an Internet site devoted to the safety and mission assurance functional discipline, providing:**
 - **Training/learning experiences**
 - **Career development information**
 - **Day-to-day job support information**
- **Site for On-line Learning and Resources (SOLAR) system web-site (1998 - Present; Transferred to Code FT in 2001)**
 - **SOLAR is an agencywide expansion of the PDI**
 - **SOLAR is an Internet site devoted to all NASA functional management disciplines**



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Professional Development Initiative (PDI)

WEB ADDRESS:

- <http://solar.msfc.nasa.gov:443/solar/delivery/disc/sma/public/html/disindex.htm>

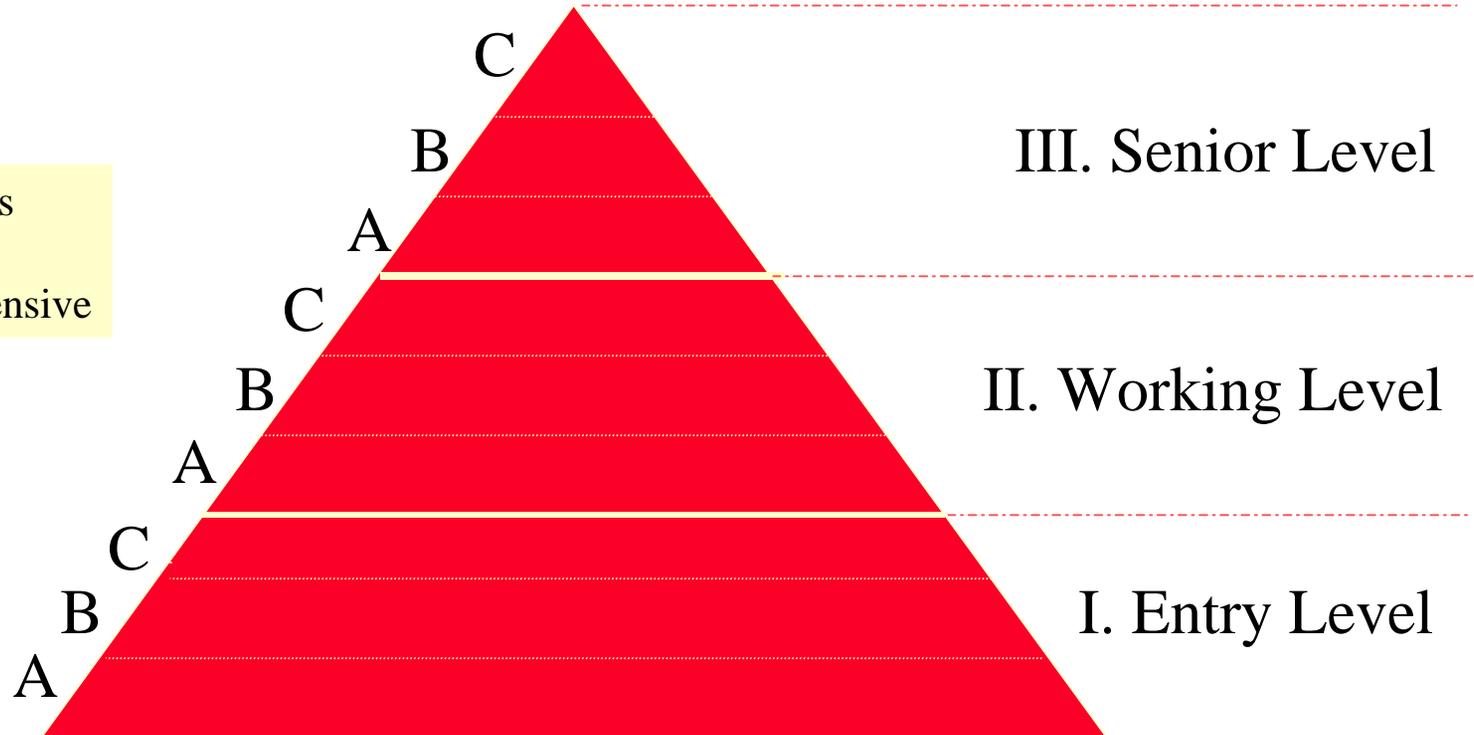
OR

- <http://solar.msfc.nasa.gov> , and click on the PDI/SMA link



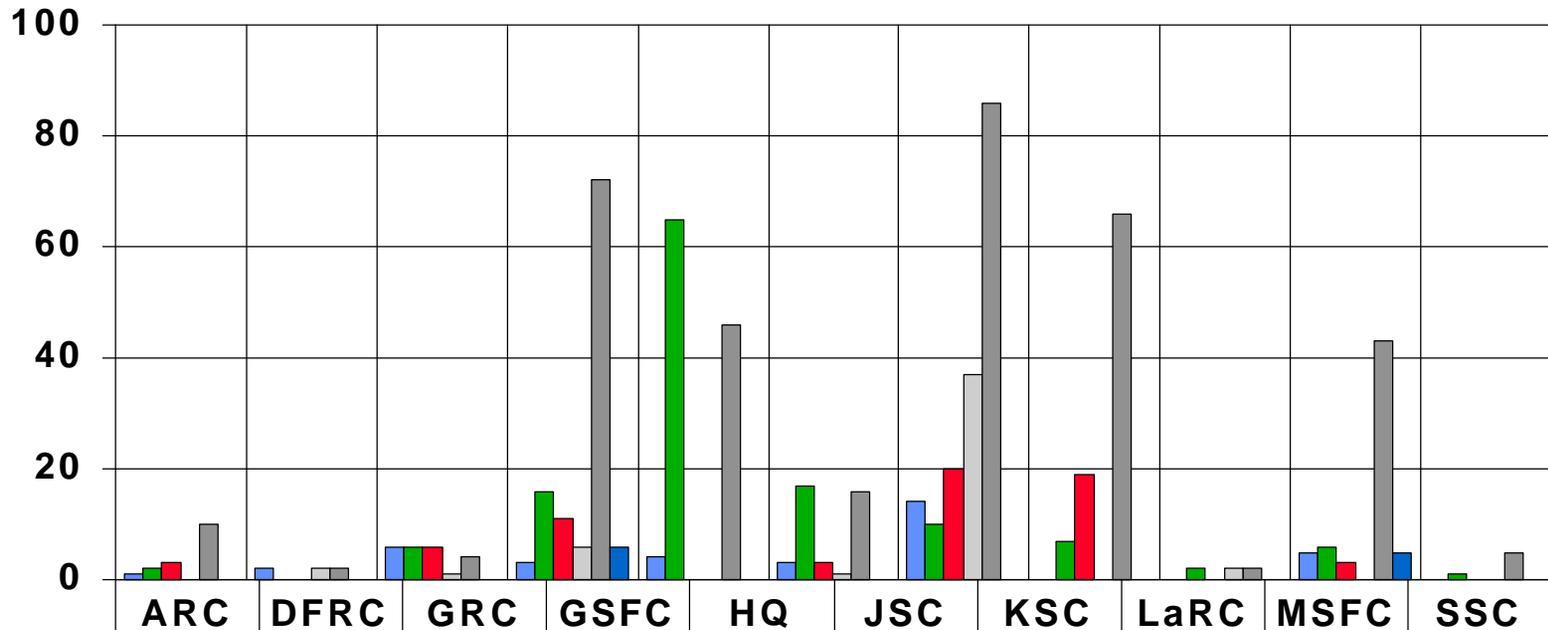
NASA SMA PDI TRAINING MODEL

A=Awareness
B= Basic
C=Comprehensive





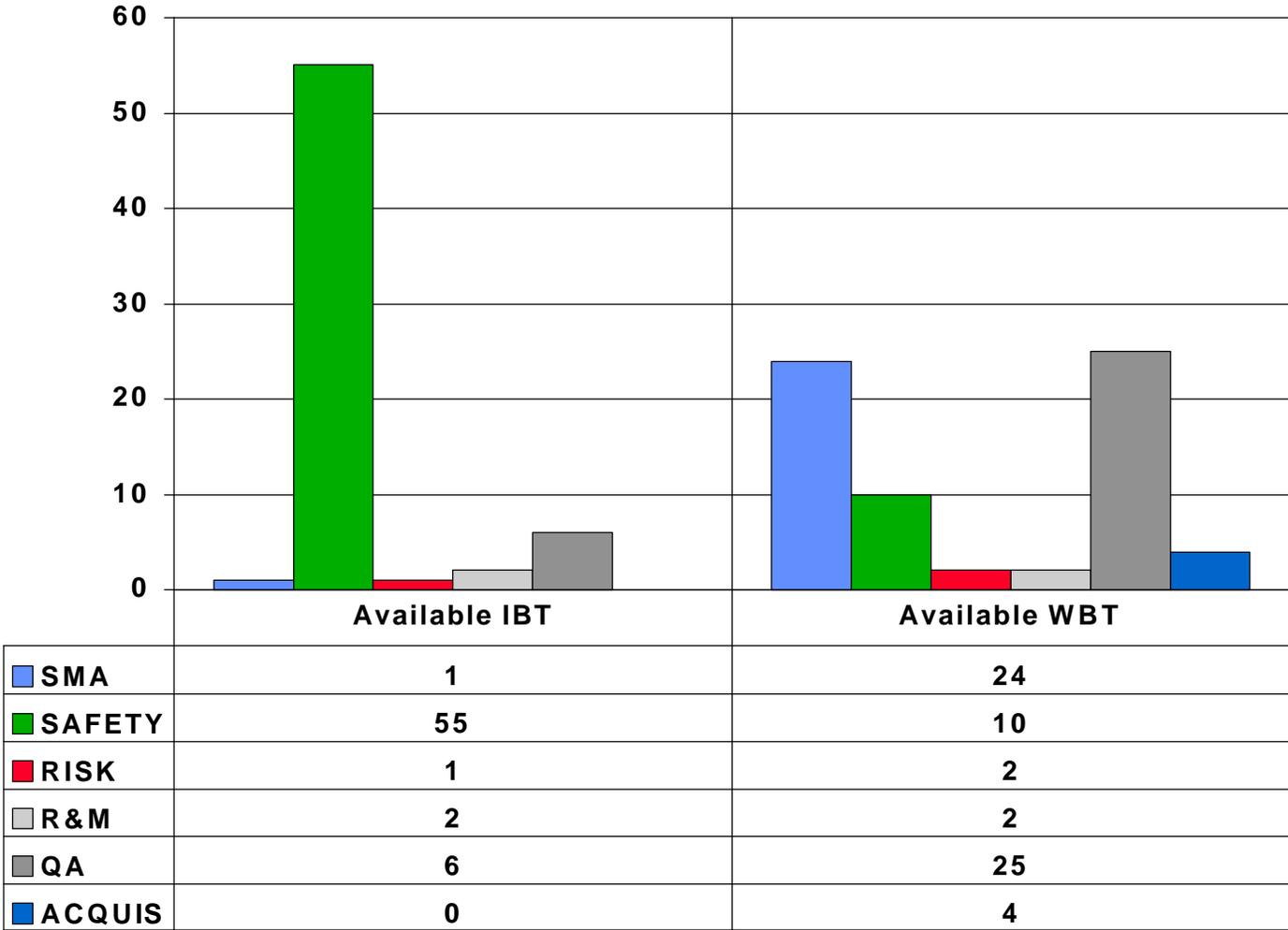
PDI WBT Course Completions by Discipline 4/00 - 3/01



	ARC	DFRC	GRC	GSFC	HQ	JSC	KSC	LaRC	MSFC	SSC
SMA	1	2	6	3	4	14	0	0	5	0
SAFETY	2	0	6	16	65	10	7	2	6	1
RISK	3	0	6	11	0	20	19	0	3	0
R&M	0	2	1	6	0	37	0	2	0	0
QA	10	2	4	72	46	86	66	2	43	5
ACQUISITION	0	0	0	6	0	0	0	0	5	0



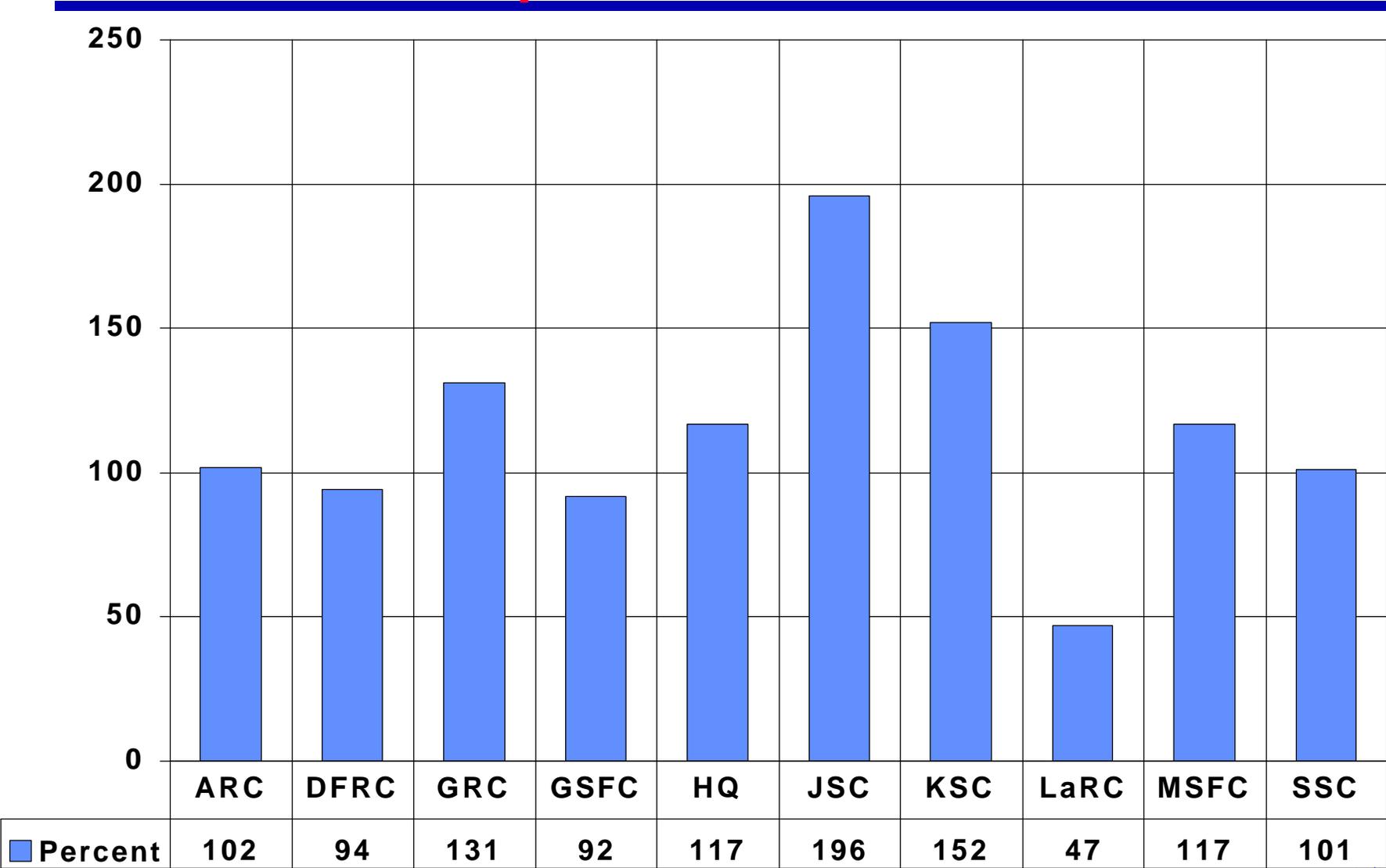
PDI Agencywide Web-Based Courses





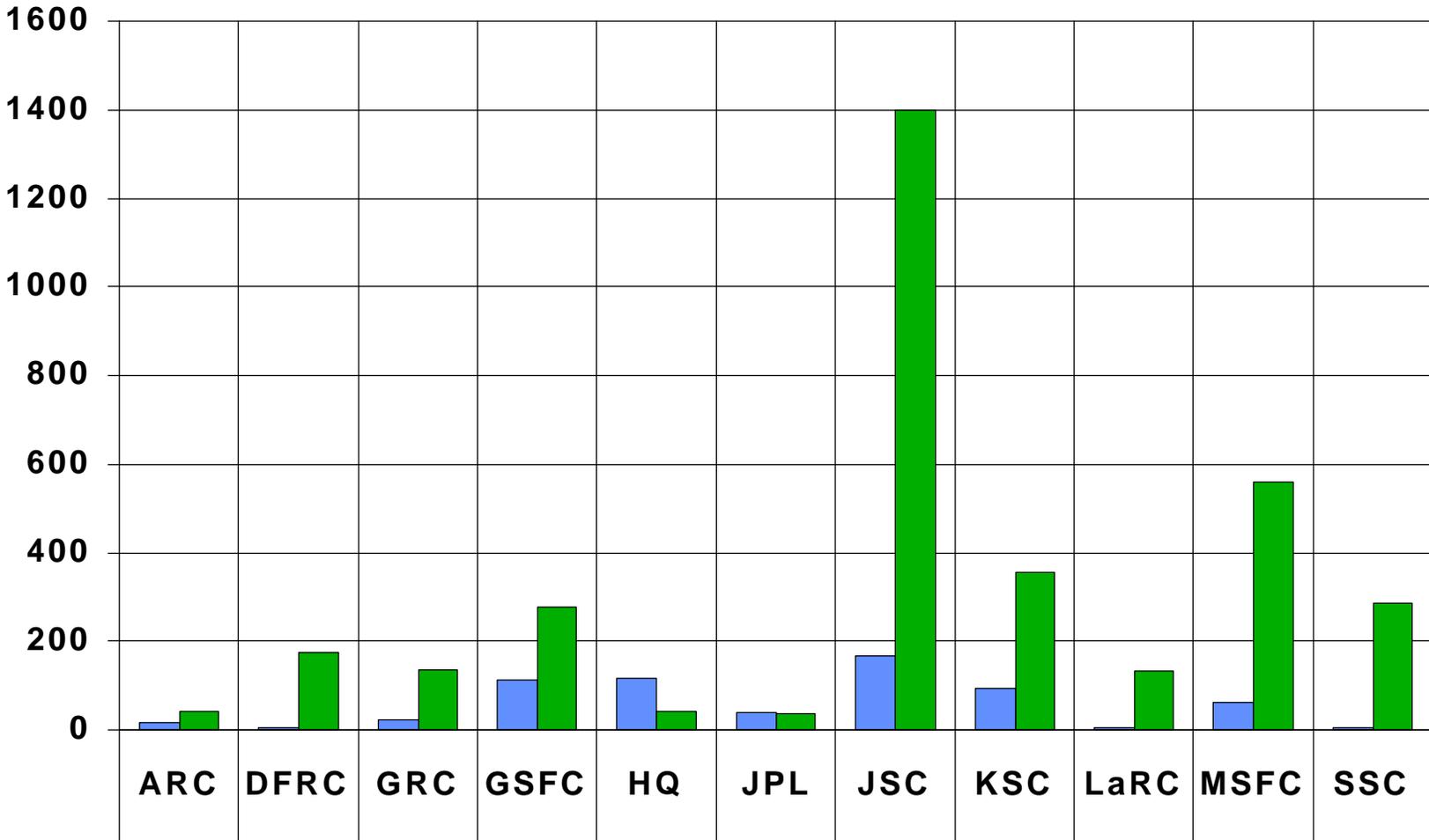
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SOLAR users as a Percentage of Civil Service Population





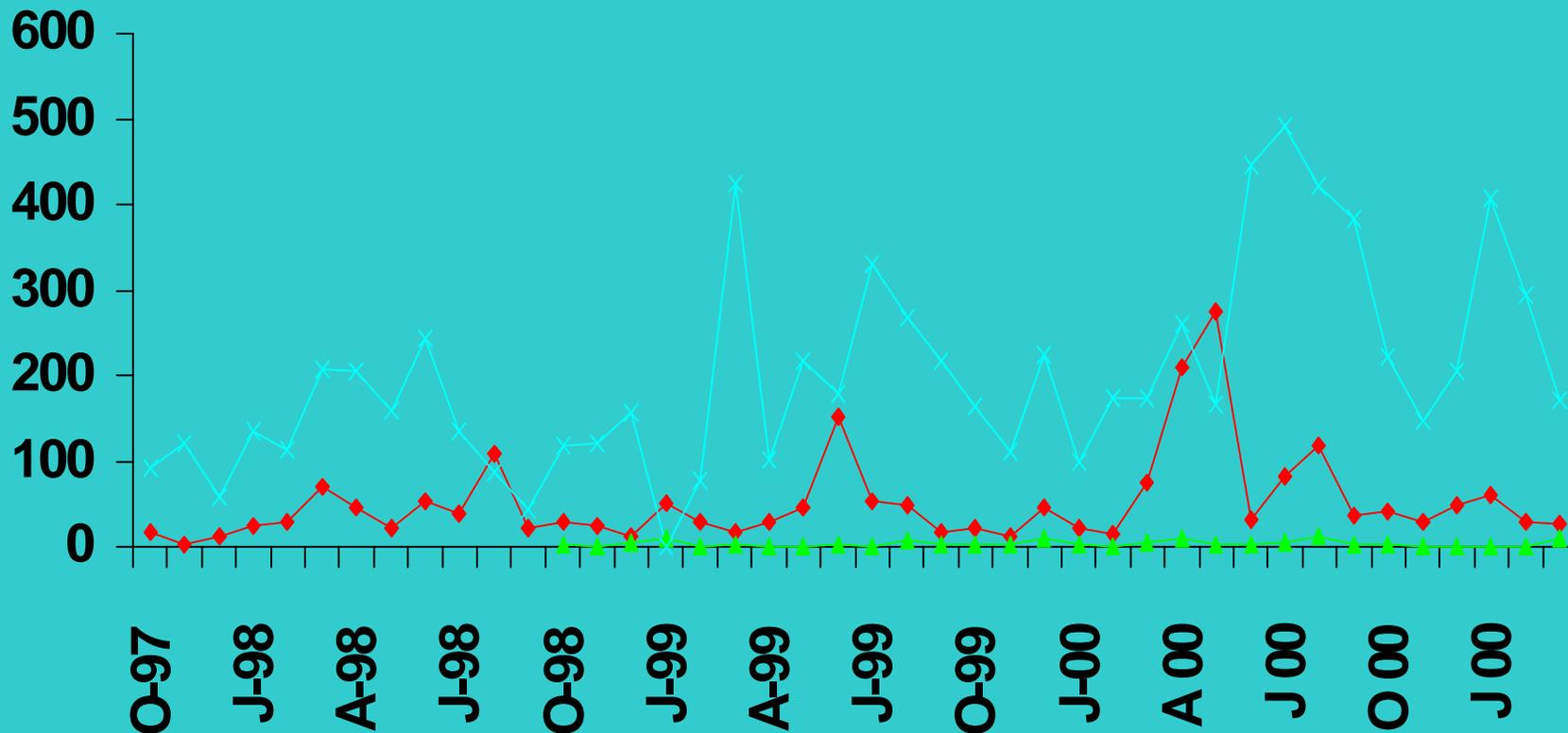
WBT/IBT Course Completions 4/00-3/01



■ WBT	16	6	23	114	115	40	167	92	6	62	6
■ IBT (NSTC)	42	176	137	276	42	37	1400	356	133	559	285



PDI Courses Completed by Provider



◆ S&MA

▲ Occupational Health

✕ NSTC(IBM)



New Courseware/Updates on SOLAR:

- **ASI Modules (In WBT & IBT Formats)**
 - Fundamental Safety
 - Office Worker Safety
 - System Safety
 - Operational Safety (under development)
 - Manage - To Be Safe
- **SMA Documentation (New WBT)**
- **In Work:**
 - Risk Management: Risk as a Resource (update of WBT)
 - LLIS (update of WBT)
 - Fault Tree Analysis (New WBT)



NEW IBT at the NSTC

- **040 - Hypergol Safety**
- **049 - Root Cause Analysis**
- **050 - Operational Readiness Inspection (ORI) Criteria**
- **039 - Auditing and Evaluating Safety Programs and Assessing Safety Metrics using PEP**
- **036 - Battery Safety**



Other NEW IBT

Probabilistic Risk Assessment (PRA) - two new courses for NASA people; to be taken in the following order:

- 1. PRA Methodology Course (four days)**
 - For managers (first 1/2 to 1 day)
 - What is PRA?
 - When to do PRA?
 - How to use the results.
 - For practitioners (all 4 days)
 - How to do PRA.
 - First pilot-presentation at HQ, April 2-5, 2001
 - POC Mike Stamatelatos, Code QE
- 2. PRA Software Applications Course (four days)**
 - Use of SAPHIRE (developed for Nuclear Regulatory Commission)
 - Already presented to 90 NASA people (CS & contractor)
 - Use of QRAS (developed by NASA)



Agency Safety Initiative (ASI)

- ASI actions can be categorized into four Core Process Requirements (CPR's). These CPR's are considered to be standard in a world class safety and health program. They are:
 - Management Commitment and Employee Involvement
 - System and Work-Site Hazard Analysis
 - Hazard Prevention and Control
 - Safety and Health Training



Agency Safety Initiative (ASI)

How will NASA achieve the safety & health training goal of the ASI?

- **On-going NASA Administrator messages on health & safety**
- **Educational materials and posters**
- **Continued Support and growth of the PDI**
- **Development of a suite of new, mandatory courses on safety and health, to be available in IBT and WBT formats via PDI/SOLAR**



NASA ASI Training Concept for SOLAR

