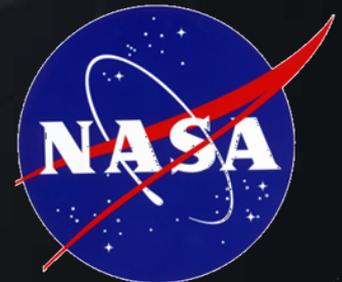


***Agency Hearing Conservation
Buy-Quiet/Quiet-by-Design Program Status***

***Beth Cooper, PE INCE.Bd.Cert
Agency Hearing Conservation Consultant
July 14, 2009***



Vision for a NASA “low-noise” culture

- ≡ A center-specific deliberate and structured process exists to evaluate the noise exposure impact of each relevant procurement
- ≡ Intentional and informed purchase and design decisions are made, based on this process
- ≡ The consequences of intentional departures/waivers from the process are anticipated, acknowledged, understood, and accommodated.
- ≡ Noise-exposure-related consequences of every design and purchase decision are routinely anticipated

Discussion topics

- ☰ Review series of BQ/QBD field center goals
- ☰ Schedule final round of status telecons
 - ☰ Weeks of 9/7 and 9/14
 - ☰ POCs can see me this week or email me to schedule
 - ☰ Email with specific agenda to follow next week
- ☰ Demonstrate *Buy-Quiet Process Roadmap*
 - ☰ Available online now for beta-testing and review!
 - ☰ Seeking beta-test feedback by 8/14 to finalize site
- ☰ Future of BQ/QBD program coordination
 - ☰ My assignment concludes 09/30
 - ☰ HQ now reviews BQ/QBD goals during field center audits

Progress goals for 07/08

BQ/QBD goals #1 - #6

1. Center policy reflects BQ/QBD requirements as stated in NPR 1800.1B.
2. Management (OH up through Center Director) is aware of BQ/QBD requirements.
3. Facilities and engineering management are aware of requirements and their specific responsibilities.
4. Procurement management is aware of requirements.
5. A center-wide team is forming to develop procedures for implementing BQ/QBD.
6. Hearing conservation training includes mention of BQ/QBD requirements.

Center status per 03/09 telecons

(Goals for 07/08)

		1	2	3	4	5	6
Center/Facility	Telecon participants 03/09 (*POC)	Policy update status (C=complete I=draft stage or in review/approval N=not drafted)	Management briefing status	Facilities and Engineering Briefing status	Procurement briefings status	Begin to solicit program participants outside EH&S?	Incorporate BQ/QBD into hearing conservation training
ARC	Danielle Prohaska*; Diana Harrington, Ramsey Razik	C	Y	Y	Y	I	I
DFRC	John Piatt*	C	I	Y	Y	N	N
GRC	Beth Cooper*, Marne Bold	C	Y	Y	Y	Y	Y
GSFC	Jeff Dalhoff*, Roy Deza	C	I	Y	Y	Y	Y
JPL	Bill Hyatt*, Lynne Lee	C	Y	Y	Y	Y	Y
JSC	Angel Plaza*	C	Y	Y	N	Y	Y
KSC (except USA)	Mike Cardinale*; Gary Bergstrom, Jim Taffer, Robin Kramer	C	Y	I	I	N	N
KSC (USA)	Jennifer Thropp*, Wendy Bension	C	Y	Y	N	N	Y
LaRC	Pat Cowin*	C	Y	Y	I	I	N
MAF	Steve Turner*	I	Y	Y	Y	I	Y
MSFC	Jamie Schagene*, David Thaxton	C	Y	Y	Y	I	Y
PBS	TBD*, Amy Bower	C (use GRC)	Y	Y	N	Y	Y
SSC	Mike Blotzer*	C	I	Y	Y	Y	Y
WFF	No response (Marv Bunting*)	C (use GSFC)	N	N	N	N	N
WSTF & El Paso	TBD*	C	I	I	I	I	I

Progress goals for 03/09

BQ/QBD goals #7 - #11

- Incomplete (as of 07/08) goals (#1 - #6) are met.
- 7. All major relevant contractor organizations are aware of BQ/QBD requirements.
- 8. Each major relevant contractor organization has identified a POC for communication purposes.
- 9. A mechanism is in place for 2-way communication with contractor POCs and other center stakeholders.
- 10. A center-wide team is established and is developing procedures for BQ/QBD.
- 11. Facilities/engineering staff are aware of BQ/QBD.

Center status per 03/09 telecons

		7	8	9	10	11
Center/Facility	Telecon participants 03/09 (*POC)	All major contractors aware of BQ/QBD requirements	POC identified for each major contractor	Mechanism in place for 2-way communication with major contractors	Center-wide team established and developing site-specific procedures	Facilities and engineering STAFF are aware of BQ/QBD
ARC	Danielle Prohaska*; Diana Harrington, Ramsey Razik	I	N	N	N	I
DFRC	John Piatt*	Y	Y	I	N	N
GRC	Beth Cooper*; Marne Bold	Y	Y	Y	N	I
GSFC	Jeff Dalhoff*, Roy Deza	Y	Y	N	N	Y
JPL	Bill Hyatt*, Lynne Lee	Y	Y	Y	N	Y
JSC	Angel Plaza*	Y	Y	Y	I	Y
KSC (except USA)	Mike Cardinale*; Gary Bergstrom, Jim Taffer, Robin Kramer	N	N	N	N	N
KSC (USA)	Jennifer Thropp*; Wendy Bension	N	N	N	N	Y
LaRC	Pat Cowin*	Y	Y	Y	N	Y
MAF	Steve Turner*	N	N	N	N	N
MSFC	Jamie Schagene*; David Thaxton	Y	N	Y	I	I
PBS	TBD*, Amy Bower	N	N	N	N	N
SSC	Mike Blotzer*	Y	Y	Y	Y	Y
WFF	No response (Marv Bunting*)	?	?	?	?	?
WSTF & El Paso	TBD*	?	?	?	?	?

Summary of 03/09 telecons

- ☐ Most POCs reported that their organization sees all designs and all or most procurements and has incorporated BQ/QBD into review
- ☐ Most centers have checklists or other 'gates' in place to catch hazardous procurements
 - ☐ BQ is easily added and is already included at most centers
- ☐ KSC/USA already using 80 dBA as maximum allowable equipment noise emission spec
- ☐ LaRC uses equipment noise emission monitoring to gauge machine health and replaces equipment (vacuum cleaners) exceeding 80 dBA

Summary of 03/09 telecons (cont.)

- ☐ Most centers have effective systems in place for communicating re: EH&S and are using them for BQ
- ☐ Most centers have 'contractor safety councils' for addressing EH&S issues and are using them for BQ
- ☐ Not all centers have a need to form a cross-functional team solely for purposes of BQ/QBD
- ☐ Most centers are waiting for a tangible 'tool' before communicating with facilities and engineering staffs
- ☐ Incorporating BQ into hearing conservation training is 'low-hanging fruit' and should be done ASAP!!

New: 12-month goals #12 - #15 for telecon during weeks of 9/7, 9/14

(Modified from 2008 OH conference presentation)

- Incomplete (as of 03/09) goals (#1 - #11) are met.
- 12. Center-specific procedure(s) are drafted and undergoing review/approval if not already finalized
- 13. Procedure(s) have been implemented, at least on a small scale, for testing (regardless of approval)
- 14. All stakeholders have been briefed on procedure(s)
 - Management
 - Facilities
 - Procurement
 - Hearing conservation program participants
 - Contractors
- 15. *BQ Process Roadmap* has been beta-tested and reviewed and feedback provided (see last slide for details)
- 16. Center Training Officer has been briefed re: COTR training

What centers want from HQ (per 06/08 telecons)

- ≡ **Lists of equipment that should be captured in BQ process**
- ≡ Examples of available noisy vs. low-noise equipment
- ≡ 1-page, simple advocacy materials for further distribution
- ≡ **Case studies of BQ/QBD programs in other industries/agencies**
- ≡ **Quantitative information (noise emissions, costs, etc.)**
- ≡ Examples of lessons-learned from not using BQ/QBD
- ≡ **Templates, forms, processes, specs to use directly or adapt**
- ≡ More policy (e.g., beyond OCHMO) “teeth” for BQ requirements
- ≡ HQ Facilities support and “push” for center Facilities personnel
- ≡ **Step-by-step guidance for low-noise procurement**
- ≡ Computer-based training and awareness briefings
- ≡ Training via SATERN that can be tracked

Best-practices case studies

- ☐ Solicited 60 individual (corporate, military, federal) contacts plus
 - ☐ ANSI S Committees
 - ☐ AIHA Noise Committee
 - ☐ Institute of Noise Control Engineering members
 - ☐ ORC Occupational Health and Safety Network
 - ☐ NIOSH 'Prevention through Design' project
- ☐ Compiled data on 10 non-NASA BQ programs
 - ☐ **Most successful programs use 80 dBA noise emission limit**
- ☐ Solicited 60 individual manufacturer contacts plus lists
 - ☐ INCE Product Noise Technical Committee
 - ☐ ANSI S Committees
 - ☐ National Academy of Engineering "Technology for Quieter America"
- ☐ Compiled data from 11 manufacturers re: design/marketing
 - ☐ **Most estimate 10% - 20% markup for "quiet" equipment**

Project support funded by GRC, contracted to Nelson Acoustics

NEW! *Buy-Quiet Process Roadmap*

- ☰ Step-by-step web-based tool
- ☰ Technical content by Nelson Acoustics; web design and content editing by Gelfand Design
- ☰ Incorporates best practices from corporate, military, government programs
- ☰ Contributions and beta site reviews from more than 20 external organizations
- ☰ Beta site now available for testing and review!

Buy-Quiet Process Roadmap

Key external contributors

- ☰ Baltimore Aircoil
- ☰ United Technologies
- ☰ Caterpillar
- ☰ Cisco
- ☰ Honeywell
- ☰ Hewlett Packard
- ☰ Ingersoll Rand
- ☰ Toro
- ☰ Carrier
- ☰ Colgate Palmolive
- ☰ Trane
- ☰ 3M
- ☰ Becton Dickinson
- ☰ General Motors
- ☰ Air Force
- ☰ Navy
- ☰ National Park Service
- ☰ NIOSH

NASA Buy-Quiet Process Roadmap

Important features

- ☰ Leads user through step-wise process
- ☰ Links to online databases and published sources of equipment noise emission data
- ☰ Provides advocacy resources and strategies
- ☰ Includes customizable forms, checklists, and template specification
- ☰ Links to best-practices external resources

Buy-Quiet Process Roadmap

Beta site testing

- Static beta site resides on developer's server, with links to NASA server
- Page wrapper and top navigation are a clue, to give NASA look and feel
- Concentrate your review on content container (white area) and left-hand navigation
- Site will eventually (~6 months) be incorporated into Auditory Demonstration Laboratory website
- Login: <http://nasa.amygelfand.com>
 - sign in with user name = testbuyquiet
 - password = betatest

Providing feedback on the *Buy-Quiet Process Roadmap*

1. Can you follow the step-wise process? If not, please offer specific suggestions for improvement.
2. Are the forms (spreadsheets) clear? If not, what changes would help?
3. Is the site navigation easy to follow? If not . . .
4. Did you find anything that is incompatible or inconsistent with NASA procurement (or other) policy? Please identify specific concerns.
5. Did you find any dead links, typos, or other bugs? Please list.
6. What center-specific resources (documents, forms, etc.) can you contribute?
7. What center-specific photos can you contribute to add clarity and visual interest?