

**The Civil Nuclear Reactor
New Build Programme**

- Generic Design Assessment (GDA) -

Third Report of the GDA Process Review Board

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- David Hughes, John Raine, Bernard Whittle, Phillip Woodward and Derek Baker -

1. INTRODUCTION

1.1 This is the third report of the independent Process Review Board¹ – the body established by the Health and Safety Executive (HSE) to provide external scrutiny and oversight of the Generic Design Assessment (GDA) process for the civil nuclear reactor new build programme.

1.2 The Board presented its first full review in Spring 2008² and then undertook a shorter update review in December 2008³. This third PRB review has been undertaken following the end of Step 3 of the GDA process and as the Nuclear Directorate (ND) makes progress through the final Step – Step 4. A description of the various Steps of GDA, together with the relationship with the process for the licensing of sites for the construction of new nuclear plant is contained in the first report of the PRB and Guidance to Requesting Parties⁴.

1.3 In addition to our own PRB reports, two other reviews have been carried out in the past two years each also focused on the work of ND in relation to the civil reactor new build programme. On the one hand, a wider review of the Directorate was undertaken by Dr Tim Stone on behalf of the Department for Energy and Climate Change (DECC) in 2008⁵, while, the Directorate itself commissioned a review of the programme and project management aspects of GDA in 2009, conducted by AMTEC⁶. Dr Stone has also recently undertaken a follow-up review and it is understood that his findings in this regard are to be published later this summer (2010).

¹ For this review, the Process Review Board comprised the following five members: Professor David Hughes; Professor John Raine; Bernard Whittle; Phillip Woodward and Derek Baker (the latter member joining the team on this occasion to add OGC Gateway Review experience to the review process).

² Process Review Board: Report to the Chief Inspector of Nuclear Installations, March 2008

³ Process Review Board : 2nd Report to the Chief Inspector of Nuclear Installations, Dec 2008

⁴ Generic Design Assessment – Guidance to Requesting Parties, v 3, August 2008

⁵ Nuclear Regulatory Review – Dr Tim Stone for the Secretaries of State for Energy and Climate Change and the Chief Secretary to the Treasury (December 2008)

⁶ <http://www.hse.gov.uk/newreactors/reports/amtec-ppm-capability.pdf>

1.4 The terms of reference for the PRB were determined when the Board was first established in 2007, as follows:

- To confirm that the public involvement process is operating effectively.
- To examine whether the arrangements made to co-ordinate the activities of the separate regulators - the Health and Safety Executive (HSE) and the Environment Agency (EA) - are appropriate and effective.
- To consider whether the processes, practices and procedures associated with the Generic Design Assessment are appropriate.
- To consider whether the decision-making process is operating effectively.
- To determine the extent to which HSE is following the processes and procedures set out in its guidance and in agreements with requesting parties.

1.5 For this third review, while still within these overall PRB terms of reference, particular focus has been directed at five issues, which are addressed in the subsequent sections of this report:

- The effectiveness of the actions implemented to the GDA process based on the recommendations of the earlier PRB, Stone and AMTEC reports (section 2).
- The effectiveness of existing stakeholder relationship management, including the public involvement process (section 3).
- The impact of overlap between GDA process completion, site licensing, and early procurement and construction activity by the future Licensee(s) (section 4).
- The management of the end of GDA Step 4, together with the assessment and clearance of GDA Regulatory Issues during Step 4, and of resulting 'exclusions' to any GDA Design Acceptance Confirmation after Step 4 (also section 4).
- Views on delivery confidence for a meaningful Step 4 assessment (section 5).

1.6 The review has been undertaken in Spring 2010, with the main evidence-gathering having been undertaken in a single week in April. During this time the Board interviewed more than thirty stakeholders (including senior representatives of the Requesting Parties and the Environment Agency as well as key staff in the Nuclear Directorate of HSE) and reviewed a considerable amount of documentation – strategic reports, monitoring documents, other internal reports and minutes of meetings etc.

2. EFFECTIVENESS OF ACTIONS IMPLEMENTED FROM PREVIOUS REVIEWS

2.1 In our second report, in December 2008, we made some twenty seven recommendations. The majority of these related to either programme and project management issues (9) or public / stakeholder engagement (8). Other recommended actions related to workforce planning (5), relationships with the requesting parties (2), the relationship between GDA and site licensing (2) and strategic leadership (1).

2.2 Later, in 2009, ND prepared a helpful document summarizing the organisation's responses to these recommendations and it has been reassuring to note that actions have been taken on each of the main recommendations. That said, it is pertinent to note that, from our initial comments (in March 2008) about the need for strengthened programme management and for resource issues to be addressed, it took some fifteen months to appoint two experienced project managers and still longer to achieve the resource levels required. This relatively slow response has inevitably contributed to the pressures now still being experienced, although the appointment of a high level Director for New Nuclear Build - GDA (in February 2009) has at last given GDA the focus and momentum that has always been needed for a Programme of this importance.

2.3 Over and above all this, there can be no doubting the achievements and progress made in GDA over the past fifteen months, and particularly in addressing the main resource capacity issues and in embedding a far stronger ethos of project management into the new build programme. In many respects, the mood in Division 6 – where the GDA work is located within ND – feels significantly different now than fifteen months ago; and indeed it was very apparent to us that minds are now becoming much more focused on 'the end of GDA' (albeit recognizing that there is an enormous amount of work still to be done to complete the programme satisfactorily).

2.4 As to the other two reviews that have also taken place since our previous report, that by AMTEC (March 2009) was specifically commissioned in response to one of our recommendations concerning programme and project management within GDA. This report led to nine further recommendations which have similarly now been acted upon and helped to strengthen management and governance practices and engender greater confidence in the scheduling and achievement of the intended outputs.

2.5 The 'Stone' review, on the other hand, contained both short-term and medium-term recommendations, particularly relating to the development of the Nuclear Directorate (ND) of HSE into an independent Statutory Corporation. The Government responded positively to those recommendations and all short-term actions have already been substantially implemented. We understand that the

key element of the medium-term recommendations, which generally relate to the proposed new status for ND, has also advanced, although progress has recently been slowed by the dissolution of Parliament ahead of the General Election in May 2010 which has delayed approval of the necessary Legislative Reform Order.

Summary of progress over the past twelve months

2.6 Much has changed within ND during the last 12 months and, an impressive amount of progress has certainly been made since our previous report. Particularly important here has been the success in recruiting and inducting additional assessors and inspectors based on new pay and rewards packages and achieving a near full complement of staff. This has enabled the completion of Step 3 and the publication of a comprehensive set of assessment reports in November 2009 (although several months later than originally envisaged). These reports appear to have been generally well-received. Equally important, however, as already stated, has been the embedding of project management within the GDA process following the appointment of two experienced project managers. They have not just improved and developed the *systems and processes* for effective planning, monitoring and reporting on progress but, crucially, have also established strong *rapprochement and interactivity* with the assessors and other stakeholders in GDA, and in this way have been able to effect significant influence on the scheduling and progression of the programme. Building on the weekly staff 'Keep in Touch' (KIT) meetings (first thing every Monday morning), the institution of a monthly 'Super KIT' meeting for assessors has also proved helpful and is a further indication of the much stronger programme management culture that now prevails within GDA.

2.7 In addition, there has been significant progress in embedding the new culture of openness and transparency that has been initiated with GDA, and particularly since the appointment of a Director for New Nuclear Build - GDA. Indications of this, for example, can be seen in the management of the Risk Register which has been developed greatly since our previous reviews to become much more the live document it needs to be. In addition, the excellent monthly 'Highlight Report' now provides the key information monitor for senior management (and is also shared with the Requesting Parties who similarly welcome and value the information that it provides). The publication of quarterly progress reports, the briefing of the press prior to the release of the Step 3 reports and the joint publications (with other international regulators) of significant regulatory issues, are all further indicators of the progress made in enhancing the reputation of the Nuclear Installations Inspectorate (NII) for its regulatory expertise and its prime role in ensuring the safety of the public.

2.8 The commitment to stakeholder engagement, the now established and strong working relationship with the Environment Agency (EA) and the shared service arrangement for programme administration through the Joint Programme

Office (JPO) are also key hallmarks of success within GDA (and of the new way of working that this is pioneering for ND as a whole).

2.9 That said, our review also revealed widespread recognition of the considerable pressures and workload still to be addressed under GDA over the next twelve months and more, and the fact that the pace of activity cannot be allowed to slow or progress to be hampered by any new uncertainties or resource constraints. Although there are now just two designs being considered under GDA (rather than three as was originally expected at this stage of the process) the amount of assessment work involved, and the task of evaluating the various responses by the Requesting Parties to Technical Queries (TQs) and Regulatory Observations (ROs), has far exceeded initial expectations. In addition, the volume of oversight and response work associated with the many Technical Support Contracts (TSCs) now underway has added greatly to the resource pressures and costs. In this latter context we were concerned to learn of some potential conflicts of interest arising because some of the larger contractors who had been commissioned to undertake work for ND across several of the technical assessment areas were also undertaking contract work for the Requesting Parties. This, we understand, reflects the shortage of appropriate specialist skills, but is nevertheless potentially problematical. Shortly after completing our interview work, we were informed that the issue had been addressed and that systems had been put in place to ensure no such conflicts of interest in future. But clearly this is a matter that will require on-going vigilance through the further stages of the assessment process.

2.10 The number of TQs and ROs being put to the Requesting Parties by the assessors is expected to continue to grow for some months yet as greater clarity about the details of aspects of the safety cases for the designs is sought. While the responses to these TQs/ ROs appear to be being turned round reasonably quickly by the Requesting Parties, it is not clear whether the responses being provided are closing out the issues of concern or whether they are tending to generate further issues and additional work. Currently, there appears to be a divergence in the number of issues being raised and the number which are being satisfactorily closed out by ND. The rate of convergence between raised TQs/ ROs and fully closed TQs/ ROs is one key indicator of the likely outcome of Step 4 assessments and we believe should be a more prominent feature of the management reports.

2.11 The high level of work pressure for assessors in Step 4 is no doubt reflected in the recent decision to split the assessment responsibility among three teams (rather than in two, as in Step 3). However, even then, the overall picture of the workload involved is still difficult to predict with any certainty, and not least because of the additional changes to the designs resulting from the TQ/ RO process and ongoing development by the Requesting Parties (for example, as a result of experience at other sites).

2.12 Following the publication of the thirty three assessment reports from Step 3 in November 2009, a detailed work plan has now been developed for Step 4 which defines the assessment work up to January 2011 and the inputs expected from the Requesting Parties to achieve that plan⁷. There is then to be a subsequent period of about four months for report-writing (to a common template now being developed), with a view to completion and publication of the outcomes of GDA in June 2011⁸. Agreement with the Requesting Parties (RPs) on the assessment plans had been expected in January 2010 but has only recently been finalised (in April 2010). There have, however, been progressive discussions with the RPs and, happily, there is no indication at present that the target end-date for GDA will prove unrealistic. While completion to schedule of Step 4 will clearly be no small challenge, the detailed programme planning work and the efforts being made to integrate these with the Requesting Parties' plans, do give rise to reasonable confidence in this regard, as long as there are neither major new safety issues uncovered in the assessments nor unanticipated resourcing problems (i.e. particularly losses of staff) for the duration.

2.13 It was reassuring in this context to have confirmation from the Requesting Parties, as well as from other stakeholders, that GDA continues to be well regarded and that the work of the assessors is generally viewed as impressively rigorous (one indicator of this being the fact that ND has identified a number of technical issues that other regulators in the international arena had not hitherto recognised, some for designs which are currently under construction). A particular problem here has been acclimatization on the part of the Requesting Parties to the expectations of the UK Regulatory system in relation to information provision (i.e. to develop and present their own safety cases and related justifications, rather than simply waiting to be told by the regulators what is required). However, more recently, the indications are of improved understanding between the Requesting Parties and ND and of more effective interactions as a result.

2.14 In its overarching aim, then, of protecting people from the hazards of the nuclear industry – which, in the context of new-build, is all about regulation to reduce risks and 'add value' (in terms of safety) in the designs of the Requesting Parties, GDA is widely felt to have proved its worth to date and is seen as a good model for the future regulation of new nuclear power plant. On the downside, the delays in provision of many details concerning the designs and the scope of the assessment work, have added significantly to the staff resources and costs

⁷ The Director for New Nuclear Build - GDA confirmed to us that the basis of the designs being assessed in Step 4 (Design Reference Points, assessment scope etc) was sufficient for the purpose of addressing the safety issues required for a design confirmation

⁸ One issue for Step 4 report-writing that needs to be decided soon concerns the use of 'technical editors'. Such specialists were employed for the Step 3 reports with the aim of improving readability of the reports ahead of publication but it turned out that the practice also generated additional work because of inaccuracies in interpretation and in the edited summaries of the assessors' findings.

involved. In fact, costs have escalated four-fold to date⁹, from an initial – although probably unrealistic - estimate of £6million. More recent estimates – at around £25 million – are now viewed as being more reliable, particularly since financial forecasting capability within the organization has now been strengthened by the addition of financial control expertise within the team. Two priorities in this respect now are to improve the accruals accounting associated with the Technical Support Contracts and to maintain careful cost control through to the end of GDA.

Governance, strategic steer and oversight

2.15 Since our previous report there have been some significant changes in ND's internal arrangements for governance, direction and management oversight of GDA. The Project Managers have introduced a regular monthly cycle of meetings with the GDA teams and Requesting Parties which appear to be effective in adding value to the process and in communicating and highlighting programme issues. As a result, the monthly Project Director's meeting is now acting more like an OGC Programme Board in that it routinely reviews progress, assesses risks and resources, albeit doing so without the level of authority that, in OGC parlance, a Senior Responsible Owner (SRO) would normally be expected to have.

2.16 Moreover, with the new programme meetings now additional to, rather than replacements for, the pre-existing fora, it seems to us that the meeting structure has become overly-complex and with considerable potential for duplication, unnecessary workload and possibly unresponsive decision making. In this recent review we noted, for example, that some of the issues and decisions on resourcing were taking up to three months to be resolved. Accordingly, we think it would be timely to review the meeting structure and schedules for GDA with the aim of better co-ordinating and streamlining the arrangements for improved efficiency and elimination of any overlap/duplication etc.

2.17 While we are sure that the appointment of a Director for GDA represents an important change for the better, providing as it now does, clearer overarching leadership for the Phase 1 of the programme, we were surprised to find that leadership (i.e. the chairing role) of the New Civil Reactor Board (NCRB) is now more specifically associated with this post. Previously this Board had been chaired by the Chief Inspector, and so was able to provide a strategic oversight for the New Build Programme as a whole – i.e. across the whole of ND. Certainly, we felt that this arrangement was of great potential value in managing the overall new-build programme between the respective Divisions of ND. But because the Board is now chaired by the Director for GDA, its authority would appear more limited and focused on the GDA (Division 6) issues of Phase 1.

⁹ Much of the escalation in costs is attributable to the higher than expected volume and costs of Technical Support Contracts being let.

The fact that, as before, it only meets quarterly also serves to constrain its strategic and operational influence over the full spectrum of the new build programme. In particular, we are concerned to ensure that, as the programme moves steadily towards, and into, Phase 2 and site licensing (a Division 1 responsibility), there is indeed strong oversight and direction for the new build programme as a whole (i.e. over Division 1's responsibilities for site licensing as well as Division 6's for generic safety issues). This is further discussed and is the subject of a recommendation in section 4 below.

Programme administration

2.18 The Joint Programme Office (JPO) continues to play a vital role in relation to GDA providing, as it does, both ND and the Environment Agency (EA) with dedicated administrative support that is needed while also acting as the key point of contact for stakeholders and as a focus for the public involvement and engagement processes.

2.19 However, resource problems (on which we have commented in our previous report) remain of great concern. While we understand that three staff have recently had their contracts secured within the JPO, the process has reportedly been very slow and demotivating for those involved. More than this, it is fair to say that the unit as a whole has been victim both of its own success, (with several staff having succeeded in promotions to other roles in HSE) and of the rigid application of the organisation's HR policies (which, because of the limited duration of the new build programme, will only issue fixed term contracts and which also require priority to be given to local redeployments). The effect of such policies has been that the unit has suffered much disruptive turnover and is insufficiently in control of the appointments process to be confident of attracting the staff it needs, retaining expertise and ensuring continuity. Although the unit is about to gain five new staff, the HSE requirement that these appointments should be made through the Local Employment Scheme (LEP) rather than by open competition, has created much anxiety and distraction for what is already a highly pressured unit. Given the rising workload, staff stability and a highly motivated team are essential, and the consequences of reliance on temporary and inexperienced staff is adding to work pressures of the senior team members.

2.20 While appreciating the basic principles underpinning HSE's HR policies in this regard, it seems counterproductive to apply them to the extent that continuity and expertise in the unit is put at risk. Indeed, we think there is a strong case to be made for some exceptions and special treatment here, and not least because of the flexibility shown last year in relation to the terms and conditions of ND's professional staff, which in turn has enabled the organization to progress the assessment process of GDA so effectively over the past year, (even ahead of the establishment of the new statutory corporation – the Office for Nuclear Regulation). In short, we think that it would be entirely fair, as well as pragmatic,

to show equivalent flexibility in relation to the administrative side of the organization and so respond to what we see as a significant and avoidable additional risk to the satisfactory completion of GDA. The work that the JPO undertakes in collating TQ's etc. and in handling responses from the RP's forms a critical component of the Step 4 work, and to ensure its continuing success there needs to be a more decisive and supportive HR approach.

2.21 As indicated, the processes that have been specifically established for GDA and which are managed by the JPO are clearly well regarded by stakeholders and are seen by the industry as a whole to be effective and of value. We are sure that the positive reactions that were provided in this respect by stakeholders were reflections of the exemplary efficiency and commitment consistently demonstrated by the JPO team and its leadership.

Key Recommendation 1: Internal Audit should review as a matter of urgency the question of possible conflict of interests that arise because some of the Technical Support Contractors are also undertaking contract work for the Requesting Parties (paragraph 2.9).

Key Recommendation 2: A new Key Indicator of progress for management reports (e.g. the Highlight Report), should be introduced; this being the rate of convergence between raised TQs/ ROs and fully closed TQs/ ROs on step 4 assessments (paragraph 2.10).

Key Recommendation 3: Review the meeting structure and schedules for the new-build programme with the aim of better co-ordinating and streamlining the arrangements for improved efficiency and elimination of any overlap/duplication etc. (paragraph 2.16)

Key Recommendation 4: Appropriate flexibility regarding HR policies and practices should be shown by HSE in relation to the JPO, particularly concerning duration of contracts and recruitment procedures to ensure that the unit is able to recruit, develop and retain the staff it needs to support the new build programme to completion (paragraph 2.20).

3. EFFECTIVENESS OF STAKEHOLDER RELATIONSHIP MANAGEMENT

3.1 Much of the supportive comment we heard from stakeholders about the management of GDA over the past twelve months was also echoed in relation to the programme's commitment to openness and transparency and to stakeholder engagement. As we have previously emphasised, this is of great potential value in helping to build respect and public confidence in the independence and expertise of the regulators and in the role of the Nuclear Installations Inspectorate as guardian of public safety.

3.2 Stakeholder engagement is of course not an easy concept to put into practice and, as we have argued previously, calls for clarity about who the stakeholders are and for a sound strategy and plan of action to address the different expectations and needs of different groups (e.g. experts in nuclear technology, national (non-governmental) campaigning groups dedicated to opposing nuclear power, and members of the general public faced with the possibility of a new station within proximity of their homes, perhaps with concerns about safety and a range of other matters arising from the proposal).

The stakeholder engagement strategy and action plan

3.3 It was therefore pleasing to find that, since our previous report, a well conceived and wide-ranging stakeholder strategy and action plan has indeed been prepared (and published in December 2009) jointly badged by HSE and EA. Ideally, of course, this would have been helpful at least two years earlier when GDA commenced, and, in our analysis, the action plan, in particular, would still benefit from further development in relation to 'measurability' of the various outcomes expected (so that it will be clearer in due course what has and has not been achieved in relation to this slippery notion of 'engagement'). As with other management strategies and plans, the stakeholder engagement strategy and action plan' is one that should be treated as a 'live' document, developing and extending in response to experience, changing circumstances and lessons in other fields of engagement work by public authorities. We certainly regard the learning from GDA in this respect to be a great opportunity for ND as a whole and it is important that the progress made and the lessons of experience are logged formally and reflected upon collectively. To that end, there is a good case to be made for capturing, tracking and monitoring progress on some key indicators on a routine basis.

Public awareness

3.4 Also of note in this context, as recommended in our original report, has been the commissioning of market research on public awareness of the nuclear new build programme and of associated perceptions. While the research findings perhaps provide few real surprises, for example, the very low levels of public awareness around reactor design/GDA issues, but much higher interest in relation to the management of nuclear waste, we were struck both by the thoroughness and the ‘accessibility’ of the resulting report (and its imaginative structuring and presentation). Most important, the findings certainly provide a sound and valuable baseline from which to assess progress in the challenge to grow public awareness of, and confidence in, the regulatory regime. Both this research and the stakeholder strategy/action plan work also reflect well on the excellent joint-working arrangements with the Environment Agency (the latter organisation having had rather longer experience and commitment to the challenges of public engagement and of effective communication). For us, the research findings also underline the importance of a decisive lead being taken by DECC in relation to the management of nuclear waste/spent fuel arising not only from any new build programme but also as legacy waste and spent fuel from existing reactors – clearly a key policy issue of high public concern.

3.5 We were also pleased that positive dialogue has been maintained with a group of leading NGOs through an annual seminar. From the feedback we saw for the most recent such event, it appears that there is general respect for the rigour and independence of ND’s assessment work despite fundamental objections to the principle of further development of nuclear power in this country (this of course being a policy issue for DECC, not ND).

3.6 Against all this, we did also note some slackening of resolve in ND during last year in relation to stakeholder engagement (or perhaps some diminished confidence), evidenced particularly by the decision not to be represented in the series of ‘road-shows’ organized by DECC at the different potential new-build sites (and despite the fact that the Environment Agency was represented). Happily, we understand that, more recently, commitment to such activity has been renewed, and we would certainly hope that this is sustained into the future, since we see such proactive openness as a very welcome element of GDA, and indeed one of great potential for ND as a whole. Indeed, we would hope that every opportunity will now be taken to profile and promote the role and reputation of ND in relation to the new build programme because of the contribution that this will make in building and sustaining public confidence.

3.7 More generally, as the recently published (and jointly HSE/EA badged) stakeholder engagement strategy acknowledges, ND needs to invest more time and other resources in developing its public and media relations to grow public awareness and its reputation for high standards of safety and of course for

independence in the regulatory process. We learned that EA had recently published a Communications Plan based on the stakeholder strategy (dated January 2010) which has set out a clear way forward. Although it is understood that ND has the intention to produce something similar, we think it would have been far better had this been done by now, and ideally in conjunction with the EA's initiative. With openness and transparency these days now expected of all public bodies, ND needs an effective programme of communications work, and not only in relation to the new build programme, where, ironically, the risks to safety are, in all likelihood, significantly lower than in the earlier generations of nuclear plant. In this respect, any accident with nuclear safety implications at an installation of any age can do significant damage to the case for new-build.

Public comments and public relations

3.8 As the market research showed, levels of public awareness of the new build programme are quite limited. But there does appear to be growing media interest, and in excess of 3,000 names have signed up to receive the E-Bulletins. The ND web-pages for new build have also attracted a reasonable level of 'visitors' and, as a result of redesign work last year, these pages now provide an excellent and accessible information resource on GDA for the general public as well as for more specialist interested parties. We feel however that the content and quality of the websites of other parties involved in the GDA and new build processes need to improve to a similar level to avoid ND appearing as though it is the driver of the nuclear New Build programme, rather than the independent regulator. That said, the number of formal comments received in response to the Public Comments process (featured on the web-pages) has been very low - just 10 in total were received on the Step 3 reports that were published last year. No doubt this is largely a reflection of the very technical nature of those reports and probably a much higher volume of comments can be expected in Phase 2 when the focus shifts to site specific issues, to which many more people will be able to relate more easily. This will be the time when the organization will need to be especially well prepared with comprehensive action plans to shape the engagement process with local communities and with the media (to which end the idea of developing 'local site' web-pages seems especially promising). In this context, it will also be important to build commitment among potential licensees/operators towards openness and public engagement (albeit, necessarily within the limits of commercial and security interests), and to learn from the Requesting Parties' experience of so doing. And we also think it will be important for ND as a whole respond – for example, by providing more guidance and support to site inspectors around the country (they of course routinely having to represent and promote ND's regulatory credentials in their areas at Site Stakeholder Groups (SSGs) and Local Liaison Groups (LLGs)).

3.9 Overall, then, the picture we have formed in relation to stakeholder engagement is mostly a positive one and with every prospect of further valuable development. We understand, for instance, that increasing attention is now

being devoted to developing and nurturing good working relations with key journalists and that the Head of Communications in ND is working on a strategy paper specifically to develop policy and practice in relation to openness and transparency. As indicated, the organization's partnership in GDA with the Environment Agency (EA) is also likely to remain invaluable in this context, not least because of their longer experience in public engagement.

3.10 On the other hand, there is the potential risk that the innovative stream of work on engagement and indeed the commitment to openness loses initiative, perhaps through loss of confidence in response to some difficult public challenges or, more likely, because of all the other workload and time pressures. Resources constraints too, are a risk to the momentum so far achieved, particularly if the new climate of austerity in relation to the public finances begins to be felt in ND in the way it is already being felt within the Environmental Agency's finances. In any event, continued determination and imagination is called for if the most is to be made of the opportunity which GDA has provided in commencing an important culture change throughout the organization - and one that we are sure holds much promise for the future.

Key Recommendation 5: The action plan for stakeholder engagement should be further developed particularly in relation to the 'measurability' of the various outcomes expected. (paragraph 3.3).

Key Recommendation 6: Every opportunity should be taken from now on to profile and promote the role and reputation of ND in relation to the new build programme because of the potential contribution that this can make in building and sustaining public confidence (paragraph 3.6).

4. BEYOND STEP 4 - DEFINING THE WAY FORWARD

The end of GDA

4.1 One further key issue, already touched upon above, which has been particularly highlighted in this review (and one which was hardly apparent to us previously), concerns 'the end of GDA', and particularly the outcomes of that process and the transition from Phase 1 (GDA) into the site-specific licensing work of Phase 2. In this respect, we were surprised and concerned at the level of uncertainty that now appears to have grown within ND about these issues and at the potential damage that such uncertainty is likely to create to both the momentum of the work on the new build programme and to the credibility of GDA in particular. It is an issue which urgently needs clarification and resolution, explanation and communication, to ensure that everyone understands the way forward, what outputs from GDA are to be expected and when.

4.2 Being a new approach, it is perhaps understandable that the original attempts at defining ‘the end of GDA’ (an event at least four years into the future) would be less than decisive and the definitions perhaps less than durable. But three years on, and with GDA now in its fourth and final step, there is certainly now a much better understanding of the nature and state of the reactor safety cases for the designs being assessed, of the scale of the assessment task still to be undertaken, and indeed of the climate of expectations and pressures now growing around the new build programme. It is thus in everyone’s interests that clarity is now provided about the remaining stages of the process, about the outputs to be delivered and when, and about the management of the now apparent overlaps between Phase 1 and Phase 2.

4.3 As well as the uncertainty we encountered about all this within ND, at the time of our interviews, we also found a certain lack of clarity in relation to the particular terminology being used in this respect – for example, we heard references to ‘clean DACs’ (meaning without qualifications), to ‘qualified DACs’ and, indeed, to ‘interim DACs’. And different personnel variously referred to such qualifications as ‘exclusions’, ‘caveats’ and ‘conditions’¹⁰. Also of relevance in this context (and with similar potential for confusion) was the fact that, while ND had (from the outset) referred to the output of a successful application in the GDA process as a ‘Design Acceptance Confirmation (DAC), we noted that its partner in the process, the Environment Agency, was using a slightly different phrase – ‘Statement of Design Acceptability’ (SODA) for their equivalent output. Subsequent to our interviews, we were pleased to learn that it has been decided from now to use the single word ‘issues’ (rather than exclusions or caveats etc.) to refer to any safety case matters identified during GDA and reported in any GDA documentation which will need to be resolved before nuclear construction can commence. We also understand that the terminology is being aligned with that of the Environment Agency in time for their forthcoming consultation process. All of these decisions now need communicating quickly and effectively among the stakeholders.

4.4 There has been no change to the broad framework for ND’s approach to the new build programme - of a Phase 1 in which the focus would be entirely on generic design issues (GDA) and then a Phase 2 in which the attention would transfer to site-specific issues under a site licensing regulatory approach¹¹. In the original guidance, the GDA process was expected to finish with the publication of reports at the end of the Step 4. Based on those reports, HSE would decide whether to issue a Design Acceptance Confirmation (DAC) or not. If a DAC is to be issued, it could be done with or without ‘issues’ (these, as indicated, being

¹⁰ Although the PRB was not directly informed of the development, we are aware of a consultation document issued in May 2009 that sought to define exactly what was meant by the term ‘exclusion’. However, we understand that there were a number of issues raised that required further discussion before it could be incorporated into the guidance documentation and these had not been finalised at the time of the review..

¹¹ The early documentation did indicate the possibility of an overlap in these two phases and the first PRB report highlighted this as potential risk.

matters that would need to be resolved prior to start of nuclear construction¹²). At the time of our review, there was still discussion within ND as to whether a DAC with issues would be released or whether to wait until all issues were resolved and release a DAC at that point. Following our review, we understand, the decision has been taken that, in the event of any such 'issues' still needing to be addressed, the DAC to be issued at the end of Step 4 will have 'interim' status (i.e. it will be an 'Interim Design Acceptance Confirmation until such time as the 'issues' are satisfactorily resolved). While we perceive an element of contradiction in the phrase 'interim DAC', it is at least reassuring that the outcome of Step 4 now has some clarity.

4.5 As well as the process itself, timing is also a key issue here. The final Step 4 of GDA has been scheduled to finish in June 2011 but, at the time of our review, we noted debate within ND as to whether or not, if a DAC were to be issued with 'issues', the GDA timetable should be extended until such time as these had been satisfactorily resolved. Doing so would, of course, turn what had originally been envisaged as a defined and time-limited process into a more open-ended one, with all the attendant risks of such open-endedness. The alternative approach that we learned had also been under consideration in ND would be to stick to the original finish time for GDA (in June 2011) and instead deal with any unresolved and outstanding generic issues as part of Phase 2 - the licensing process.

4.6 From our discussions during this recent review, it is clear that Requesting Parties are indeed looking forward to (and expecting) some form of Design Acceptance Confirmation (DAC) in June 2011. And indeed, the PRB certainly takes the view that it would be best to commit to the original plan for GDA, to end after the Step 4 assessment reports have been published (i.e. in June 2011). Depending on the outcomes of the technical assessments, we think that, providing there are no 'show-stopping' safety issues, DACs should be issued at this point, albeit with 'issues' attached if, as indicated, there are still significant (though potentially resolvable) generic issues to be addressed.

4.7 Then there is the question of who, within ND, might take responsibility for any further assessment work associated with outstanding generic issues beyond the end of Step 4. In this respect, it was pleasing again to note that a clear decision had indeed been taken - that any such work should be dealt with by the GDA team (in Division 6) – in our view, an entirely logical way forward given the accumulated knowledge and understanding of the outstanding issues built up there during GDA. But we also noted differences of viewpoint about the timescales over which any such outstanding issues should be resolved; some suggesting by December 2012, while others talked more openly in terms of 'as soon as possible'. Our own view here is that it would seem somewhat risky to specify an 'end date' at this stage given that the scale and implications of any

¹² See New Nuclear power Stations Generic Design Assessment – Guidance to Requesting Parties, v 3, August 2008 – pages 17,21

remaining issues may not be sufficiently clear by the end of Step 4. However, here we must mention a further complication concerning the burden of the costs relating to further work by ND in having to resolve any such outstanding issues after the end of Step 4¹³.

4.8 Turning to the Phase 2 work, there is a clear decision here that this will be handled by ND Division 1 and in accordance with this, we noted that new internal working arrangements are now being put in place there to prepare for the New Build programme. Such preparations include the establishment of, what appear to us to be, a parallel set of governance and management arrangements. For example, in recognition of the reality that generic (GDA) and site-specific (site licensing) work will overlap to some extent, representatives from Division 6 now sit on the Project Board established by Division 1 (and vice versa). However, in our view the better way to proceed would be to establish a single New Build Programme Board that would oversee the new build work in all Divisions and particularly manage the overlap in responsibilities between GDA and site-licensing (in Divisions 6 and 1 respectively). Such a single board could also be helpful in addressing the further complexity in this context that arises because, in Phase 2, the organisation will be dealing primarily with site operators, as potential licensees, rather than with the Requesting Parties, as in Phase 1. A single overarching board would, we are sure, make a significant contribution to resolution of the complexity of the interfaces between Operators, Requesting Parties, Division 1 and Division 6.

Strategic Leadership and Steer for the New Build Programme

4.9 It is of course for the ND itself, not the PRB, to determine the internal division of responsibilities for such issues, and indeed to determine the nature of the GDA outputs. However, we are sure that it is our role and responsibility to draw attention to the possible implications of different decisions in this regard, as we interpret them, and, particularly to highlight the possible consequences of lingering uncertainty on such matters. And here, while we are aware that official statements have been issued in recent months with the intention of clarifying the way forward and allaying any uncertainties, the variety of scenarios described to us, the differing expectations and aspirations we heard about from the different parties we interviewed, and the plethora of terminology used by different interviewees to describe the outputs, suggests to us that a more comprehensive and specific description of the way ahead is urgently needed. This, as we have said, needs to cover at least the timetable, the outputs of GDA, how any unresolved generic design issues will be handled after the end of Step 4 (in June 2011), and the split of responsibilities in these latter stages, between Division 6

¹³ The current agreement is that Requesting Parties will meet the costs of GDA (i.e. up to the June 2011, end of Step 4) and no provision has been made for further ND cost recovery beyond this point, although we understand that discussions are now taking place with the parties about the funding of any further work.

(with its responsibility for GDA) and Division 1 (with responsibility, among other matters, for site licensing).

4.10 Inevitably, our discussions evolved into the impact on GDA of the proposals being developed for an arms length organisation for ND (the Office for Nuclear Regulation). In our second report we alluded to the magnitude of the management task in such a change programme. We wanted to ensure that *“whatever institutional changes are called for, these do not distract from the primary business of progressing and completing the new nuclear build programme work to time and to those high standards on which the Inspectorate’s reputation for excellence depends”*. We remain of the opinion that increased organizational emphasis is needed on delivering the New Build Programme at a time of major organizational change.

4.11 In our analysis, much of the difficulty here reflects the weaknesses in the governance arrangements for the new build programme within ND to which we have already alluded. In particular we refer again here to the lack of a single New Build Programme Board to provide both strategic steer and dynamic overarching management for the new build programme as a whole – i.e. spanning both generic design and site licensing responsibilities. Accordingly we think such a New Build Programme Board should be established as soon as possible to lead and manage ‘new build’ as a single programme, with responsibility for both Phases 1 and 2 and encompassing GDA through to the building and commissioning of new reactors. Such a board needs to provide decisive, proactive and joined-up leadership (across the relevant divisions) and will need strong chairing to drive the process in an effective manner. The role of course must fall under the auspices of the Chief Inspector, but may perhaps best be delegated to a senior manager who has the relevant skills, who will be able to command respect across the organisation and, perhaps above all, who is able to devote significant attention to the role and the challenges it presents.

4.12 Finally in the context of strategic leadership, and here, with a rather wider consideration of the Nuclear Directorate as a whole, we also think there is an important issue to be addressed concerning succession planning to ensure the longer term resilience of the new-build programme. We suggest that it would be timely for the organisation to give more concerted attention to this matter, having recently lost some highly experienced staff through retirements, and with a significant number of other retirements coming up over the next few years. As we have said, the good reputation of NII depends on the capability of its team, and in this regard experience and expertise count for a great deal. Careful and early planning for succession into the leading roles within the organisation will surely pay significant dividends in ensuring reputational protection into the future.

Key Recommendation 7: Decisions should be taken and widely communicated as a matter of priority about the detailed arrangements for the ‘end of GDA’ (whether in June 2011 with the publication of the Step 4 reports or later), the nature of the output -- a DAC (with or without qualification), and the allocation of responsibilities within ND through the overlapping Phases 1 and 2 (paragraph 4.2).

Key Recommendation 8: Decisions should, as a matter of priority, be communicated to all stakeholders about the particular terminology to be used in relation to the outputs of GDA (notably for any ‘issues’ to be attached to DACs) (paragraph 4.3).

Key Recommendation 9: The New Build Programme should be led and managed by a (single) New Build Programme Board, covering both Phase 1 and Phase 2. This would replace the current NCRB and both Project Director meetings in Divisions 1 & 6. (paragraph 4.11).

Key Recommendation 10: More attention should be given to succession planning to ensure the longer term resilience of the new-build programme within ND. Such plans should be kept under regular review to ensure they are always up-to-date (paragraph 4.12).

5. DELIVERY CONFIDENCE

5.1 Finally in this review we were particularly asked to provide an assessment of our confidence in the ‘delivery’ and successful completion of GDA, and with this in mind, membership of the PRB team was extended to include an accredited OGC assessor.

5.2 Overall, our confidence in the likelihood of a successful outcome to GDA has grown significantly since our previous review, and in this respect, much is due to the success last year in recruitment of assessors and achieving a near full staffing complement. As indicated, particularly significant too, has been the impact of the two project managers who are now working very effectively within the GDA team and who have managed to integrate and embed a much stronger project management culture in to Division 6 and established great rapport and interactivity with the assessors. Much credit is also due to the dynamic style of leadership that now sets the mood in the Division and provides a more cohesive and confident top team – the Director for GDA, the Deputy Director, the Heads of Assessment and the Project Managers. This has all helped to build confidence and to facilitate the achievements of Step 3, and it augers well for continuing success in Step 4 too.

5.3 However, such a positive view has to be qualified by recognition of the realities that assessment work pressures are still rising and that there is still a great deal to be done ahead of the June 2011 deadline previously set for the end of Step 4. We also need to take into account the reality that the organization is heavily dependent on retaining the current staffing complement and the expertise that has been collectively built up. Even a relatively small number of instances of staff turnover at this stage has the potential to create significant problems in continuity and to prove an unfortunate distraction from the workflow. In this respect, the resourcing concerns described earlier in relation to the JPO are a particular worry at present, and with the same potential to disrupt the programme from its schedule over the next twelve months or so. A high priority must surely be to ensure stability within the JPO, to which end we have argued above the case for some flexibility in relation to normal HSE HR policies and practices.

5.4 Given these concerns, our assessment at the end of this review is that 'delivery confidence' is most appropriately judged as 'amber', which in the OGC Guidance is defined as follows - *'successful delivery appears feasible but significant issues already exist requiring management attention. These appear resolvable at this stage and if addressed promptly, should not present a cost/schedule overrun'*.

KEY RECOMMENDATIONS

Key Recommendation 1: Internal Audit should review as a matter of urgency the question of possible conflict of interests that arise because some of the Technical Support Contractors are also undertaking contract work for the Requesting Parties (paragraph 2.9). (*Critical – Do Now*)

Key Recommendation 2: A new Key Indicator of progress for management reports (e.g. the Highlight Report), should be introduced; this being the rate of convergence between raised TQs/ ROs and fully closed TQs/ ROs Step 4 assessments (paragraph 2.10). (*Essential – Do by end of June 2010*)

Key Recommendation 3: Review the meeting structure and schedules for the new-build programme with the aim of better co-ordinating and streamlining the arrangements for improved efficiency and elimination of any overlap/duplication etc. (paragraph 2.16). (*Critical – Do Now*)

Key Recommendation 4: Appropriate flexibility regarding HR policies and practices should be shown by HSE in relation to the JPO, particularly concerning duration of contracts and recruitment procedures to ensure that the unit is able to recruit, develop and retain the staff it needs to support the new build programme to completion (paragraph 2.20). (*Essential – Do by end of June 2010*)

Key Recommendation 5: The action plan for stakeholder engagement should be further developed particularly in relation to the ‘measurability’ of the various outcomes expected. (paragraph 3.3). (*Essential – Do by end of September 2010*)

Key Recommendation 6: Every opportunity should be taken from now on to profile and promote the role and reputation of ND in relation to the new build programme because of the potential contribution that this can make in building and sustaining public confidence (paragraph 3.6). (*Essential – Do from now on*)

Key Recommendation 7: Decisions should be taken and widely communicated as a matter of priority about the detailed arrangements for the ‘end of GDA’ (whether in June 2011 with the publication of the Step 4 reports or later), the nature of the output -- a DAC (with or without qualification), and the allocation of responsibilities within ND through the overlapping Phases 1 and 2 (paragraph 4.2). (*Critical – Do Now*)

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The Process Review Board
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May 2010