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MERGING TWO ORGANISATIONAL CULTURES

Björn Wahlström, VTT Industrial Systems

Carl Rollenhagen, SwedPower

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Summary: This report describes a study of the merger of the two organisations at the Barsebäck and the Ringhals sites, which was the result of the agreement between the Swedish government, Vattenfall and Sydkraft at the closing of the Barsebäck unit B1 in 1999. The study was carried out as a co-operation between VTT, SwedPower and Ringhals AB within the LearnSafe project. The intent of this report is to share generic findings from the study among the LearnSafe partners. The report is written based on information collected in semi-structured interviews in which a total of 5 persons from the Ringhals site and 5 persons from the Barsebäck site were participating. The study proved to give valuable information on how organisational change should be planned, implemented and followed up to be successful. The resources spent in the exercise were relatively modest. Among the more generic results is an identification of the need to find a proper balance between various forces that have an influence on the process of organisational change.

List of content:

Merging two organisational cultures	1
1 Introduction	3
2 Background	3
2.1 The Barsebäck site	3
2.2 The Ringhals site	4
2.3 Differences between the sites	4
3 Integrating Barsebäck in the Ringhals organisation.....	5
3.1 Initial considerations	5
3.2 Setting the stage	5
3.3 The first phase of the project.....	6
3.4 The second phase of the project	6
3.5 A new structure in the organisation.....	6
3.6 Towards the future	7
4 Experiences from the process.....	7
4.1 Cultural differences	7
4.2 Differences in views.....	8
4.3 Successes and less successful arrangements	8
4.4 Competency.....	9
4.5 The regulatory dimension.....	9
5 Some generic lessons	9
5.1 Mergers and organisational change.....	10
5.2 Decisions along the path	10
5.3 Communication during the process.....	10
5.4 Individuals in a process	11
6 A discussion	11
6.1 Changes more generally	11
6.2 Allocation of roles and functions	12
6.3 Matrix organisations.....	12
6.4 Organising for maintenance	13
6.5 A quest for improved performance	13
6.6 Regulatory oversight	14
6.7 A political agenda.....	14
7 Conclusions	14
Appendix 1. Typical questions asked during the interviews.....	15
Appendix 2. Balances to clarify in an organisational change	16

1 INTRODUCTION

One important goal of the LearnSafe project¹ is to establish a close interaction between researchers and plant people in addressing issues of organisation and management that are important for safety and efficiency. This goal has further been facilitated by initiating small spin-off tasks in which participating nuclear power plants bring issues that are interesting on a medium-term for investigation and discussions within LearnSafe. This report gives account of one such a spin-off study, which was carried out during the years 2002 and 2003 as a co-operation between VTT, SwedPower and Ringhals AB.

The report describes a study of the merger of the two organisations at the Barsebäck and the Ringhals sites, which was the result of the agreement between the Swedish government, Vattenfall and Sydkraft at the closing of the Barsebäck B1 unit in 1999. The report is written based on information collected in semi-structured interviews in which a total of 5 persons from the Ringhals site and 5 persons from the Barsebäck site participated. This report has been amended with specific reports to Ringhals AB, which contain more targeted findings.

It is the hope that LearnSafe colleagues in Europe may find this report interesting and stimulating in entering their own organisational changes. A few words of warning may however be in place. Firstly the report is based on a very limited set of interviews and the comments obtained are therefore not necessarily relevant for the whole process. The organisational change is different from those, which have been initiated by forces acting on an open market, because the merger described in the report was initiated by a governmental intervention. Finally the results have been obtained in a Scandinavian culture and the results might therefore not be representative for other countries.

2 BACKGROUND

The merger of the two organisations at the Barsebäck and Ringhals sites was the outcome of the agreement between the Swedish government, Vattenfall and Sydkraft at the closing of the Barsebäck unit B1. In the agreement a new company Ringhals AB was formed in which Vattenfall AB got 74,2% of the shares and Sydsvenska Värmekraft AB, a subsidiary of Sydkraft, got 25,8%. At the same time Barsebäcks Kraft AB (BKAB), a subsidiary of Sydkraft and the operator of the two Barsebäck units, became a subsidiary of Ringhals AB.

2.1 The Barsebäck site

The Barsebäck site today has two BWR units of which B1 has been closed and B2 still is operating. In the original agreement between the Swedish government, Vattenfall and Sydkraft it was assumed that the second unit B2 would be closed down during the year 2001. This decision was however postponed to the year 2003, but presently many voices have been raised to allow for a continued operation. In the year 1999 when the political tug-of-war approached its end with the closing of the unit B1 it quite rapidly became clear for the management in Barsebäck that many benefits of an integration of Barsebäck in the Ringhals organisation could be obtained.

¹ The project FIKS-CT-2001-00162 "Learning organisations for nuclear safety" funded by 5th Euratom Framework Programme 1998-2002, Key Action: Nuclear Fission by the European Commission. For additional information see the web-site <http://www.vtt.fi/virtual/learnsafe/>.

One important decision by the Barsebäck management was to grant the personnel a rolling security of five years of employment after a political decision to shut down the first unit. This security is now three years of employment after a political shut down of the unit B2 and it applies to all personnel at the Barsebäck site. This security has apparently made it possible to retain necessary competency in Barsebäck. Still it is very clear that the uncertainty in the situation has had and still has an influence on the Barsebäck organisation.

There is presently a legal complication of the relatively straightforward view that it is Ringhals AB that is operating the B2 unit, because the license for operating the two units at the Barsebäck site was originally given to the operator Barsebäcks Kraft AB. It showed to be difficult to transfer the license and therefore the responsibility for operating the B2 unit, because the responsible organisation is still Barsebäcks Kraft AB. Another complication is the interpretation of what should be considered as nuclear activities and consequently should be in the direct control of the licensee. A strict interpretation would assume a special license from the Swedish government to Ringhals AB to do maintenance at the B2 unit. Ringhals AB has applied for this license, but the application has so far not been handled.

2.2 The Ringhals site

At the Ringhals site there are one BWR R1, which is relatively similar to the B2 unit, and three PWRs. Of the PWR units R3 and R4 are very similar, but R2 slightly different from them as being the first PWR to be built in Ringhals. The Ringhals site was up to the year 1999 operated within the Vattenfall organisation.

As a part of Vattenfall the organisation at the Ringhals site has been engaged in several development projects aiming at the creation of a long-term strategy for maintaining the production capability of the production departments. Activities in this regard have included a careful assessment of investments and operational costs to account for the long-term value formation process and cash flow on the corporate level to ensure efficiency on a shorter term. Another activity has been connected to information technology tools that facilitate an access to planning instruments and information in general from the whole organisation. The production units at Ringhals have also been modernised in several large projects.

In response to the need to create a strategic outlook and proactive planning for the future the organisation at the Ringhals site has been actively involved in several projects aiming at finding new and more efficient ways to work. Activities have included a thorough assessment of possibilities to use process orientation in work processes to be more efficient. The management and quality system went through an extensive development process a few years ago. An environmental certification was applied for and awarded a few years ago. Activities not viewed to be a part of the Ringhals core activities have been outsourced. Before the merger there was at Ringhals a large consensus on strategic issues and how to continue in preparing for the future.

2.3 Differences between the sites

In looking at the sites there are more similarities than differences. This is also to be expected with two companies operating in the same field and overseen by the same regulator. Over the years there also have been many contacts between Barsebäck and Ringhals due to the large similarity between the units B1&B2 and R1.

Still there some apparent differences that have to be observed when a merger between the organisations is entered. The first of them is the difference in size between the two organisations. At the time of the merger there were about 400 persons at the Barsebäck site. The two

units were operated by an organisation, where the whole personnel were sitting very near to each other. At the Ringhals site there were about 1200 persons, who were distributed over a far larger geographical area. The distance between the two sites is about 220 km.

One difference between the two sites is connected to the political pressure, which has been focused on the Barsebäck plant over many years before the shut down of the unit B1 in 1999. Ringhals has not been exposed to the same kind of political gauntlet.

3 INTEGRATING BARSEBÄCK IN THE RINGHALS ORGANISATION

When the legal arrangements were settled Ringhals AB started a process, which aimed at making the best of the new situation. In this process it rapidly became apparent that the best way to proceed was to initiate a complete reorganisation in which the Barsebäck B2 unit would be integrated to be considered the fifth operational unit of Ringhals AB. At the same time it was decided to proceed in two steps, where the first would concentrate on picking the obvious benefits of a larger organisation and the second on benefits, which could be obtained by further restructuring of the organisation.

3.1 Initial considerations

Given the new situation it rapidly became apparent that there were many possibilities to find more efficient ways of working in the two organisations. A second important component was connected to maintaining the competency in various technical support functions at both sites. In Barsebäck one important consideration was connected to ensuring continuity even in the case that also the unit B2 would be stopped due to political reasons. In spite of these largely practical views, there were however also voices pointing to the danger of Barsebäck as being suppressed by Ringhals to loose identity and profile.

3.2 Setting the stage

In a closer assessment of the new situation the senior management at Ringhals made some important decisions. The first perhaps most important was that cultural differences between the two sites were real and had to be accounted for. A second important decision was to actively counteract all forms of big brotherism from Ringhals towards Barsebäck and instead be active in searching for the best practices regardless of their home organisation. A third important decision was that everyone was granted employment, but with the qualification that there might be changes in roles and tasks.

In the preparation it was clearly recognised that the essential parts of the management and quality system should be updated before the merger. There was also a very clear principle not in any way to challenge the very clear line of responsibility for nuclear safety within the organisation and at the five production departments. More generally there was a tacit agreement within the senior management at Ringhals that a prudence principle should be applied in the whole process.

These considerations lead to the need for dividing the merger in two clearly separated phases. The first phase would then include the review of all functional activities to understand similarities and differences in how they are organised to be able to propose the most effective way of working. The second phase would then concentrate on a restructuring of the whole organisation change aimed at capitalising all possible synergy effects. More generally the merger was seen as the first step in a longer development of organisational practices and employee roles.

3.3 The first phase of the project

The merger was established as a project with two major phases and several subprojects. The project name BRO² contained the important message of building a bridge between the two organisations. The first phase of the project, BRO1 was started by giving all organisational units at both sites the task of contacting each other to discuss work practices. The expected outcome of this process was an agreement on how to work in the future. The working groups were also told to use all means to find potentials for cost savings through the use of common practices and standardisation. One example were considerable benefits quite rapidly could be obtained was the procurement activities.

The groups were given rather free hands in developing their proposals and this also led to a large enthusiasm in the work. At some cases holly cows were challenged, but also these discussions were possible to solve. The main results of the BRO1 project were presented after about half a year of work on a seminar and exhibition, which developed to a real happening. A total of some 200 persons were directly involved in the BRO1 activities.

3.4 The second phase of the project

When the first phase of the merger concentrated on picking the easy benefits of the new situation, the second phase concentrated on those, where structural changes in the two organisations would be necessary. The second phase of the merger was slightly delayed due to the shift of CEO at Ringhals AB. The withdrawal of the former CEO was decided already before the starting of the merger and he considered it important to give the new CEO the possibility to have his own saying in the process.

When the BRO2 project was started the senior managers in Ringhals and Barsebäck rapidly arrived at a common view on the organisational structure. This included five production departments that were served by common company resources. The next step was then to appoint the managers for the production departments and for the support departments. They then got the task from the CEO to form their own departments and to appoint unit heads and group leaders.

One important part of the BRO2 project was connected to the writing of the new management and quality system for it to be ready when the new organisation was launched. This goal was reached and on 1 April 2002, the date when the new organisation was put in place, the whole upper part of the system was completely rewritten, including delegations, responsibilities, functional descriptions, interfaces, directives and connections to the Swedish legislation.

The annual shut down for refuelling during the year 2002 was in spite of the formation of the new organisation carried out using the old organisation. The reason was that all planning was based on the old organisation and a revision of all the plans would have introduced to large uncertainties in the process. The annual shut down for refuelling in 2003 will serve as a kind of acid test for the new organisation.

3.5 A new structure in the organisation

The new organisation comprises of five production departments and common resources organised in three departments, the protection, the maintenance and the technical departments. In addition there is one department for safety and environment, one for procurement and lo-

² BRO, Barsebäck Ringhals Organisation, bro is the Swedish word for bridge.

gistics, personnel and communication, business support, and one for economy. At each of the production departments there are co-ordinators responsible for the interfaces to the three support departments. In setting up the general structure of the organisation one ambition was to restrict the size of the groups to around 20 persons.

There are many fora for interaction and communication within the organisation. On the highest level there is a senior management conference 5-6 times a year, in which the managers of all the departments are participating together with a few additional persons. Further there are three operational management groups one directed to production, one to technical questions and the third one to administration, which are meeting two times a month. In addition all the departments have their own management groups with their own meetings. This gives a somewhat complicated structure, but the benefit is that there is a very clear line for the delegation of responsibility and it is easy to distribute information in the organisation.

In the organisational change people have moved physically only in relatively few cases, but this may change when experience with the new organisation is obtained. It is the intention that the first evaluation of the organisational change will be made during the autumn 2003.

3.6 Towards the future

It is apparent that there will be a need for some fine-tuning in the organisation of Ringhals AB. The interviews brought some of these needs into the open, but generally there seems to be a large consensus that a good organisational structure has been selected. Many of the respondents pointed to the importance of consolidating the new organisation in all its aspects.

The need for ascertaining ownership especially among maintenance personnel was one of the issues brought up in this connection. It may also be necessary to strengthen the competency within the I&C field to reflect the results of ongoing modernisation's. Another important recognition was that the most difficult questions apparently will be connected to issues not yet identified.

One challenge in the future is connected with modernisation project that are necessary to maintain the production departments operational well beyond the year 2010. With five plants to be modernised, the resources of the technical support department of Ringhals AB may emerge as the limiting factor in deciding on the timing of different efforts.

4 EXPERIENCES FROM THE PROCESS

In considering mergers and reorganisations it is apparent that benefits achieved have to rely on improvements in work processes. Such improvements could be connected to the economics of scale for example making it possible to get better prices in the procurement processes. Sometimes overlaps in resources could be found and remedied. Improvements could also be connected to a better utilisation of knowledge in the resulting organisation by making it possible for the personnel to specialise. Finally a more stable workload over time can make it possible to have the same output with smaller costs. The respondents agreed that the merger had been beneficial at least in these ways.

4.1 Cultural differences

Asked about cultural differences between the two sites the respondents gave somewhat differing views. All agreed however that there were differences caused by differences between the sites, different histories and different company traditions. Many of the respondents saw

Barsebäck as the small site with short paths for decision making and many informal contacts. Similarly Ringhals was viewed as larger, more formal and bureaucratic with a rather large distance between the senior managers and the shop floor.

Some of the respondents thought that the Barsebäck culture presumed a larger openness on the side of the management to tell about strategies and plans that are under preparation. Managers in Ringhals are perhaps seen more as skilled technicians than leaders and some thought that the managers in Barsebäck were more willing to delegate. Interestingly enough both organisations viewed themselves as being more efficient than the other and the respondents gave examples for the correctness of their view.

Considering cultural differences there may actually be a larger difference between operations and maintenance than between Barsebäck and Ringhals. To some extent this may have to do with a historical tradition in Sweden, but it is apparent that maintenance activities in the future will rely more on analysis and engineering skills than in the past.

4.2 Differences in views

The largest difference in views on the organisational structure seems to have been connected to the location of maintenance on the production departments or centralised to a common department for the whole Ringhals AB. For an outsider it seems apparent that a centralised maintenance department would have many benefits. The view that maintenance should be located to the production departments seems to be connected to a fear for a loss of control if there is a competition for critical activities. A decreased ownership and commitment was also mentioned as a risk connected to the new arrangements. Centralised maintenance has due to the compact site been used in Barsebäck since many years back and this fact apparently made it easier for people to accept this solution.

Another issue, on which several opinions were expressed, was the extent of using the concept of process orientation in the structuring of work. At Ringhals there had been earlier largely unsuccessful attempts to introduce the concept and therefore it did not initially get a very large support. It was however felt that the concept should be reflected in some way in the organisation also with reference to good experience obtained from Barsebäck. Process orientation did not formally affect the structure of the organisation, but it was still seen important to promote process orientation and one of the organisational units was therefore given the task of advancing this thinking in the new organisation.

4.3 Successes and less successful arrangements

The merger has according to most of the respondents been a largely successful process. In many cases there have been real synergies between groups in Barsebäck and Ringhals. One of these examples is the plant modification process that has been streamlined based on experience both from Barsebäck and Ringhals. There are also many examples of cases, where the joint utilisation of resources at both sites has made it possible to save in the engagement of outside consultants.

Some comments gave however an impression that the middle management sometimes had been left confused of what their roles in the new organisations would be and what kind of expectations were placed on them. For these cases there was an impression that some unit heads and group leaders had been rather unresponsive to complaints made.

According to the responses given to additional questions for collecting a better understanding of the causes for these problems, it appears that the plans developed in the first phase of the

merger were rather rudimentary. It also appears that the selected structure of these organisational units were the result of a somewhat haphazard process. Finally the communicative skills of some of the people involved seem to have prevented the establishment of a common ground of work in the units involved.

This negative experience illustrates the need for managers to have sensitive ears. Evidently it is difficult to be in all places all the time and when problems accumulate it is necessary to set priorities. To some extent it seems that some of the unwillingness to respond has been triggered by the upcoming evaluation of the merger and the organisational change, which is planned for the autumn 2003.

4.4 Competency

Asked about the exploitation of existing competency in the new organisation all respondents expressed their satisfaction. The rejuvenation of the organisation was not defined as any specific goal this time, but the need to compensate for future retirements is well known both at Barsebäck and Ringhals. To serve this purpose Ringhals AB has been actively involved in networking with universities, colleges and local schools. The information and personnel departments have already been involved to support this process.

In spite of the large satisfaction with the present competency situation many of the respondents expressed their concern in a longer time frame. It is apparent that a success in this regard will depend on the image Ringhals can communicate of being an interesting place to work at. One of the respondents mentioned the start of trainee programmes as one action to build competency for the future.

4.5 The regulatory dimension

The Swedish regulator SKI has issued a new regulatory rule, which was enforced in 1998.³ Among others it contained the requirement that organisational modifications, which can affect the conditions specified in the safety report, shall be reviewed. In compliance with this requirement Ringhals AB supplied a notification to SKI in the beginning of the year 2002. In the preparation of the notification earlier experience from the process at the Barsebäck site was utilised. So far SKI has responded to the notification only with a receipt of its arrival.

SKI was during the autumn 2002 doing an extensive review of the management and quality system of Ringhals AB. Informal comments from that review as brought to responsible persons at Ringhals has indicated a general satisfaction with the new organisation.

For an outsider it is evident that the acceptance of the new organisation in Ringhals at least to some extent relies on a perceived uneasiness of SKI with the possibilities of maintaining competency at the Barsebäck site over an extended period. The organisational solution offered clearly contained a remedy to this situation.

5 SOME GENERIC LESSONS

The merger of the two organisations to form Ringhals AB has its own characteristics and particularities. Still it is possible to draw some generic lessons from the process. This chapter

³ SKI (1998). The Swedish Nuclear Power Inspectorate's Regulations Concerning Safety in Certain Nuclear Facilities; SKIFS98:1.

gives a general account of some of these lessons sorted under a set of headings intended to make the chapter more readable.

5.1 Mergers and organisational change

Mergers and organisational changes are irreversible processes. As one of the respondents noted, when you have boiled an egg, you cannot get it unboiled. This means that the organisational change should be planned and evaluated in detail well before the process is launched. It is also important to get a commitment from the personnel for the process as such and this may introduce the need for detailed information and communication activities.

Still in spite of all planning it is never possible to define everything in advance. This means that enough thinking should be spent on initiating a process, in which detailed solutions are defined more accurately as the process proceeds. It is also to be expected that many unexpected problems will emerge during the process and there should be a preparedness to take care of them.

In studying organisational changes and their effects, one common observation is that they often are more expensive than originally expected. This observation should however never be seen as a hindrance, because a less well adapted organisational structure may in the long run be far more expensive. Successful organisational changes also have an important component of rethinking at different layers in the organisation to find better ways to operate. The intended review of the new Ringhals AB organisation planned to take place in the autumn is well placed to collect feedback from the whole process.

5.2 Decisions along the path

According to the respondents the basic structure of the organisation was very stable during the whole process. On the lower organisational levels there apparently was more turbulence. This gives an indication on one hand that there was a large agreement among senior managers on which path to take and on the other hand that the process was open with a true participation of lower levels in the organisation. One of the respondents thought that a larger involvement from the personnel department might have helped during the process.

During the migration towards the new organisation there apparently were some discussions on how modern management ideas on process orientation should be reflected. According to the CEO he wanted to have a very clear line of responsibility for nuclear safety and therefore settled for a clear line organisation. On the other hand he also saw much potential in using process analysis as a tool for making work processes more efficient and therefore established a separate unit in the organisation with this task.

One observation is that organisations at nuclear power plants are dynamic. There are various projects and other activities, which are starting and stopping and they introduce the need for moving people around. In Ringhals for example there are a few large modernisation projects that involve tens of persons and these have evidently introduced additional couplings that were reflected in the change process.

5.3 Communication during the process

As many textbooks say, communication is a very important part of any organisational change. Already planning for an organisational change can introduce uncertainty and anxiety, which may hamper the whole process. It is therefore important that the management goes out as early as possible with very clear messages. In addition they should use the time needed and be as

pedagogical as possible. It is also important that all messages the senior management gives are consistent. It seems that this aspect of the organisational change at Ringhals AB was taken care of quite well.

In spite of the general success, some of the respondents still thought that the communication could have been done even better. This is difficult to judge based on a discussion with very few people, but a common observation is that people never seem to be satisfied in this regard. Some of the respondents voiced the view that more efforts could have been placed on explaining goals and selected strategies in the merger. Especially the division of responsibility between the production and the support departments seem to have been somewhat puzzling.

In a merger it is important to establish face to face interactions in the process. The discussions during the first phase of the merger were very much appreciated in this respect.

5.4 Individuals in a process

The respondent reported a rather large span of attitudes and reactions to the organisational change. It is evident that some individuals will gain and other will lose in the process. Similarly some think that the process is going too fast and other that it is too slow. A few may also believe that the organisational change actually will not change anything.

In the places where problems were reported they seem to have their source in poor personal chemistry between key persons in the organisational units. In one example a combination of what one respondent named as strong and weak personalities made it difficult to create a common vision of responsibilities and tasks. This case seems too isolated and it may also have been influenced by individual unwillingness to change.

In spite of the very clear strategy to allocate support resources for the production departments, it seems that some inconsistencies were allowed to develop in how well equipped they are with technical and maintenance support. To some extent it is understandable that managers to have a feeling of control have a preference of having the resources themselves. Still this tendency can be interpreted as an indication of distrust in organisational procedures, which may be necessary to counter.

A few of the respondents took up a discussion of the necessity to consolidate the new organisation to make it possible for people to create identity, ownership and commitment in their new positions. One of the respondents expressed his conviction that openness in the process has been one of the crucial components in the success of the merger. A situation where a messenger is punished for bringing bad news cannot be acceptable in any organisation.

6 A DISCUSSION

This chapter brings up additional issues not directly related to the merger of the two organisations at the Barsebäck and Ringhals sites. Responses to the final question (cf. Appendix 1) asked in the interviews are also somewhat reflected in this connection.

6.1 Changes more generally

Change has to do with the need to sometimes stir the kettle. It is necessary from time to time to give people new views on the work that they do. This need should however be balanced with the burden every reorganisation introduces through increased uncertainty and confusion. It is also clear that there at all reorganisations will be complaints. The communicative and negotiation skills of responsible managers are then reflected in how these complaints are taken

care of. Some of them could simply be rejected, but some of them may be important to attend to.

As one of the respondents noted you should never be afraid of changes, because challenging traditional ways of thinking often bring in new insights and consequent improvements in work practices. During the process of organisational change you should be as honest as possible when informing on goals, methods and timetables. If there are things that cannot be disclosed for the time being, this could be said and most people will accept that.

In initiating an organisational change one should start with the general principles. What is important and what is not? When these questions have been answered the migration path should be laid out together with the most important milestones. In the process it is necessary not to divide decisions on to many hands, because difficulties in communications may lead the process astray.

6.2 Allocation of roles and functions

There are many balances that should be approached in entering an organisational change (cf. Appendix 2). These include taking stand on which functions that have to be located at the production departments and which could be located somewhere else. It is also necessary in the organisation to combine a clear focus on the day-to-day activities with a focus on more long term development activities. Only a proper reflection of this kind of balances can set a target on an organisational change to bring the process to a successful end.

At all nuclear power plants in Sweden there are some kind of requisition and supplier system in use, to regulate the roles when the support departments supply various services to the production departments. This gives a clear division of roles that has been considered necessary in guiding the division of labour. There have been less successful experiments, where these systems have been brought to and beyond a point of decreasing returns. The new organisation at Ringhals relies on a division of roles between the production and the support departments. One concern connected to this division has sometimes been whether or not the production departments have the necessary skills to place orders wisely to maintain production capability in good condition. It is evident that this is possible only if a suitable number of skilled generalists are allocated to the production departments.

In the discussions some of the respondents gave the recommendation not to move people out from the production department. Only a location near to operation can establish the close communication needed for following the day-to-day activities. This would also have the benefit of making it possible for the control room personnel to feel secure the same persons are involved for periodic test and preventive maintenance.

6.3 Matrix organisations

Many organisations are introducing different kinds of matrix organisations. The concept has certainly many advantages and the new organisation in Ringhals can in a way be seen as a matrix organisation, where the support departments are serving the production departments with different functional skills. The difficulty in a matrix organisation is a possible ambiguity in responsibility. In Ringhals the message has been quite clear that it is the line, which makes the decisions. Still according to one of the respondents there have been questions like "Who is my boss", around in the organisation.

In nuclear organisations it is important that the responsibility is in the line and that it is felt as a personal responsibility. A possible responsibility for the development of the work processes

should not interfere with this responsibility. At Ringhals there seems still be some differences in views on the possibilities and needs for combining the line organisation with a more process oriented organisation. It would be important to clarify views of the senior management in this regard.

Persons selected for managerial positions should evidently have both technical and communicative skills. In comparing skills needed for a manager in a line position with skills needed in a process position, one would assume that the later has a larger demand for co-coordinative and communicative skills than the former.

6.4 Organising for maintenance

In Ringhals, but also at other nuclear power plants, a large amount of thinking has been spent on finding the best way to organise maintenance activities. One difficulty is to ensure ownership and stability with the flexibility of people working on several production units over time. A second difficulty is how to organise the contacts between profession within maintenance in a natural way to ensure support and exchange of experience. The yearly outages bring in a third dimension to which the maintenance department has to adapt. The final challenge is to combine the day-to-day activities with the more long-term activities aiming at a development tools and methods to be used by the maintenance.

A proper solution of this puzzle is not easy to find, but the solution selected in Ringhals seems at least in theory to have good prerequisites to function. In spite of the organisational affiliation to the maintenance department everyone have their own production department with which they are mostly working. To ensure competency support and contacts within the profession a system of technical groups are used, such as for example within the electrical profession, where groups for electrical machines, valve actuators, contact breaker, etc. have been established. This arrangement gives the provision that people who are assigned to long term tasks in the development of maintenance activities have contact persons at the technical department within their own speciality with whom they are co-operating. This arrangement is also aimed to ensure that more analytical career paths are available also within the maintenance department.

6.5 A quest for improved performance

There is certainly a need for the nuclear industry to be innovative in order to meet future challenges. At the same time it is necessary to create a very stable environment where possible changes and modifications are weighted very carefully. In retrospect many of the wonderful ideas proposed over time have lost their splendour when placed at test in a real organisation.

It would be important to create a better understanding of the components that so far have made the success of the nuclear industry possible. It has been based on a long-term and very systematic work with investments both in the competency of the personnel and in the condition of the plants. If the economic pressure grows too large it may be difficult to maintain these success factors in a sustainable way, with the risk that future production may be put in danger.

One strategy for a future success is likely to rely on efficient networking with other power plants, research and education. Interface to colleagues at other plants and in other countries combined with benchmarking of important activities can provide many good ideas for improvements. As one of the respondents put it "Steal with pride".

6.6 Regulatory oversight

In a broader consideration of organisational change it is evident that the nuclear safety authorities have a very legitimate interest in the process. It is also evident that the requirement to give a notification can give posture to the process. With this said it is somewhat astonishing that the Swedish regulator SKI has not yet responded on the notification from Ringhals AB in any other way than that it has been received.

6.7 A political agenda

The political process around nuclear power in Sweden has been long-drawn. One milestone was reached in 1999 when the Swedish government ordered the unit B1 to be shut down. At the same time it was understood that the unit B2 was supposed to be shut down in June 2001. That decision never took force and the shutdown was postponed until 2003. The dry summer and autumn in Scandinavia in 2002 was combined with a cold winter 2002/2003 and the decision of a shut down seem to be postponed once more.

For a company, which is supposed to be competitive on an open market this kind of uncertainty is almost unbearable. The only sound policy is to continue everything as if the operation would continue indefinitely. On the other hand everyone in the organisation knows that a decision to shut down could come any time.

Another difficulty connected to the political agenda is the apparent unwillingness of governmental bodies to take stand on questions connected to nuclear power. One example was connected to the need to apply for permission for Ringhals AB to perform certain crucial maintenance activities at the B2 plant for which BKAB, the daughter company of Ringhals AB, still has the operating license. The application for this permit had been tabled without any feedback when it will be handled. It is astonishing that governmental bodies are showing this kind of neglect towards commercial companies.

The political situation regarding nuclear power in Sweden is still somewhat open. The earlier date of 2010 as the year when all nuclear power should have been phase out is not there anymore and the nuclear power plants have incorporated operations far beyond that year in their strategies. On the other hand there have been high level discussions on the possibility to reach a similar agreement as in Germany on a ceiling on the amount of electric power generated.

7 CONCLUSIONS

It is very clear that the pressure to achieve top performance is very much higher today than some twenty years ago. As one of the respondents noted that if one of the incidents the Ringhals plant experienced in its youth would happen today, it would be an economic catastrophe.

In considering the merger one could say that there were two unrelated components that were combined in the process. The first and the larger change, the merging of the two companies, were actually combined with the formation of a common maintenance department in Ringhals. It is possible that the reorganisation of maintenance activities would have been necessary even without the merger and that the merger facilitated this change.

The merger has largely been successful. One important factor in this success has most certainly been in the very explicit policy in Ringhals not to take a big brother attitude towards Barsebäck in the process. The few misses have apparently been coupled organisational functions that were poorly investigated before entering the later steps in the reorganisation.

APPENDIX 1. TYPICAL QUESTIONS ASKED DURING THE INTERVIEWS

The interviews at the Barsebäck and Ringhals sites followed the general outline as given below. Whenever interesting issues were brought up they were generally followed through. One important part of the discussion was also spent on establishing a good understanding of how the organisation is structured today and how different organisational units are working together.

1. Please describe your involvement in the organisational change and the most important steps and milestones from your point of view.
2. Please describe explicit and implicit goals in the organisational changes together with the migration path that was selected. What were the reasons for selecting this path? Have there been any disagreements regarding specific solutions? How has the personnel responded?
3. How were the ideas collected from both organisations? How were different proposals analysed? In a change process it is easy to forget different things. Can you give suggestions for how to proceed not to overlook something important?
4. How much in detail the organisational change was planned? Was there any major change in plans and implementation during the process? How did you train your personnel? Did you have two organisations in place during the process?
5. How was the formal part of the organisational change taken care of? When was the management and quality handbook updated? How were the regulatory contacts taken care of? Have there been any comments from the authorities so far?
6. How well have you been able to retain the competency in both organisations? Have there been any problems with people quitting? Did you use the organisational change to rejuvenate the management?
7. Have you experienced a difference in cultures at Barsebäck and Ringhals? Is there a difference in cultures at different departments? What kind of differences have you seen? What are the pros and cons connected to the differences?
8. Any organisation relies on an efficient communication both internally and to the external world. What is your impression of the communication in the original Barsebäck and Ringhals organisation before the organisational change and during the process?
9. When you are looking back on the process so far, is there anything that should have been done in a different way? Where did you succeed and where did you fail? What are the largest challenges now in consolidating the organisational change?
10. In conclusion, what is the feedback that you would like to give from your organisational change to your colleagues in Europe? What kind of do's and don'ts have you observed?

APPENDIX 2. BALANCES TO CLARIFY IN AN ORGANISATIONAL CHANGE

There are a number of balances that have to be tackled and decided on in every organisational change. The following list does not claim to be complete in any way, but it may still be helpful in the planning, implementation and follow up of an organisational change.

Balance	Comment
never change – change too often	It is very unlikely that the organisational design would have been that successful that no change is needed, but an organisational change is always expensive.
be in control – rely on others	As a manager is it necessary to be in control of the specialist resources or can you rely on another organisational unit to provide them when needed.
sit near to your customer – sit near to your function	Is it more important to sit at the unit you are serving or near to your colleagues with whom you can discuss details of the work you do?
control the process from above – delegate decisions down	It is important to give responsibility to people, but it is equally important to give them proper guidance in the process.
personnel – owner	It is necessary for senior managers to balance two views, those expressed by the owners of the company and those expressed by the personnel.
young – old	It is equally important to ensure a sound age distribution of the organisation as to ensure that the competency of the old is taken care of before they are leaving.
managers – employees	In many organisations there is a tension between managers and employees. A relief in this tension can in many cases be very productive.
involve people broadly – do not distribute decisions on too many hands	It is important to involve people and for that end they should be allowed to decide for themselves. Key decision should however be kept on a few hands.
focus on the day-to-day activities – focus on long term issues	To ensure that both are attended to it is sometimes wise to allocate these two issues on different persons. Still it is necessary to ensure that these communicate.
competition – co-operation	Competition stimulates people to reach a better performance, but no organisation can live without co-operation. Managers should stimulate co-operation.